



United States
Department of
Agriculture



Natural
Resources
Conservation
Service

In cooperation with
the United States
Department of the
Interior, Bureau of Land
Management and
Bureau of Indian Affairs;
and the New Mexico
Agricultural Experiment
Station

Soil Survey of Sandoval County Area, New Mexico, Parts of Los Alamos, Sandoval, and Rio Arriba Counties



How To Use This Soil Survey

General Soil Map

The general soil map, which is a color map, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

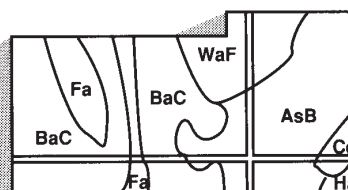
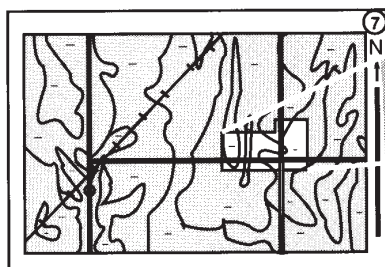
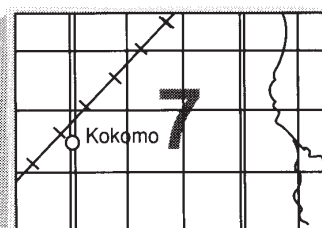
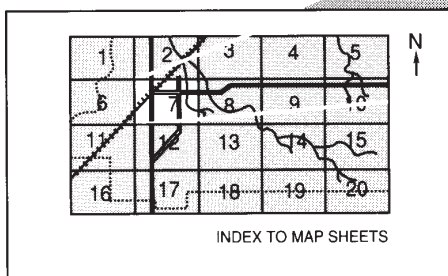
To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

Detailed Soil Maps

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1977-1985. Soil names and descriptions were approved in 1987. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1982. This survey was made cooperatively by the Natural Resources Conservation Service and the United States Department of Interior, Bureau of Land Management and Bureau of Indian Affairs; and the New Mexico Agricultural Experiment Station. The survey is part of the technical assistance furnished to the San Juan, Cuba, Coronado, Ciudad, and Santa Fe-Pojoaque Soil and Water Conservation Districts.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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Cover: "Valle Grande," is the Spanish term for "great valley." Depicted here is a typical landscape of the Cosey-Jarmillo association, 2 to 20 percent slopes, in the foreground; Panlon very cobbly sandy loam, 35 to 65 percent slopes, is on the steep mountain slopes in the far background.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at <http://www.nrcs.usda.gov>.

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Foreword

This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, ranchers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.



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State Conservationist

Soil Survey of Sandoval County Area, New Mexico, Parts of Los Alamos, Sandoval, and Rio Arriba Counties

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United States Department of Agriculture, Natural Resources
Conservation Service
in cooperation with United States Department of the Interior, Bureau
of Land Management, Bureau of Indian Affairs, and New Mexico
Agricultural Experiment Station

General Nature of the Survey Area

Sandoval County Area is in north-central New Mexico. The survey area is bordered on the north by the Jicarilla Apache Area, Rio Arriba County Area, and the Santa Fe National Forest; on the east by Santa Fe County; on the south by Bernalillo County; and on the west by Cabezón Area, Cibola Area, McKinley County Area, and San Juan County, Eastern Part. It has a total of 1,550,000 acres or about 2,422 square miles, and includes parts of Sandoval and Los Alamos Counties.

Bernalillo, the county seat of Sandoval County, is on the Rio Grande in the south-central part of the survey area. Los Alamos, the county seat of Los Alamos County, is in the north-eastern corner of the survey area. Highways N.M. 550, 96, and 4, U.S. 85, Interstate 25, and the Santa Fe railway traverse the survey area.

The Rio Grande, the only perennial stream, traverses the eastern part of the survey area from north to south. The Rio Puerco and Jemez River are intermittent streams in the west and central parts of the survey area.

Elevation ranges from about 11,252 feet on Redondo Peak, the highest point in the survey area, to about 5,000 feet where the Rio Grande enters Bernalillo County.

Principal land uses in the survey area are livestock grazing, wood and timber harvesting, recreation, wildlife production, high-intensity irrigated farming, and urban development. The irrigated farming is in the Rio Grande and Jemez River Valleys. Urban development is concentrated in the Rio Rancho area.

Descriptions, names and delineations of the soils in this survey area do not fully agree with those of Bernalillo, Cabezón, San Juan, or Santa Fe Counties. This is the result of new concepts of soil classification, changes in series concepts, different needs and uses, and the time the soil survey work was performed. Map unit differences are noted in the map unit descriptions. Updated correlations are in progress for these older surveys.



Figure 1.—Location of Sandoval County Area, New Mexico.

Agriculture

Agriculture in Sandoval and Los Alamos counties is many centuries old. Records indicate that Pueblo Indians were irrigating land and growing crops when first encountered by the Spaniards in 1540. They have continued to irrigate their lands up to the present time. Although there are a number of small and widely separated tracts of irrigated land in the valleys of the Jemez River, Rio Puerco, and their tributaries, most of the land now irrigated is in the Rio Grande Valley.

These lands along the Rio Grande are in an organized irrigation district known as the Middle Rio Grande Conservancy District. It was formed in 1925 to consolidate the many old ditch and diversion headings into major diversion dams and irrigation systems.

Water supplies generally are not as dependable for the small and scattered tracts of irrigated land that lie outside the Rio Grande Valley. Irrigation water for these lands

comes from the smaller streams originating in the mountains, and generally is available only in the spring or following periods of heavy rainfall.

The 16,000 acres of irrigated land is all within Sandoval County. Although this is a very small percentage of the total land area, it contributes much to the economy of the area. Wide varieties of crops are grown; however, many are of extremely limited acreage. Alfalfa, corn, and small grains, which are the principal crops, are grown on approximately 50 percent of the irrigated land.

Dryland farming, which was practiced to a limited extent in the western and northern parts of Sandoval County, has declined to the point that little land is now used for this purpose. Between 1920 and 1940, homesteaders settled in the more suitable parts of this area and acquired tracts of 320 to 640 acres on which they grew beans and corn successfully in some years. The low and erratic rainfall, however, made dryland farming extremely hazardous, and raising livestock gradually replaced the production of crops.

A high percentage of the land in this area is used for grazing livestock, and ranching is the principal type of agricultural enterprise. Livestock operations range from small flocks of sheep to medium-sized cow-calf-yearling operations.

Wildlife and recreation are also important land uses in this survey area. The high mountainous parts of this area, as well as adjacent foothills, provide good habitat for many species of wildlife and many opportunities for outdoor recreation such as camping, fishing, hunting, and other outdoor activities.

History of the Survey Area

The region has had continuous habitation since the Ice Age (Sandia Man Cave), and is presently the home of eight Indian pueblos.

Near Los Alamos, Bandelier National Monument is a spectacular open record of sporadic farming dating almost 3,000 years ago. In the next thousand years (nearly 2000 B.C.), a more established type of farming was taking place by people inhabiting the cave shelters of the canyon.

Further down river, the distinctive natural river crossing of the Rio Grande just north of the Sandia Mountains is the geographic crossroads of the area. North, south, east, and west traffic was centered in and around Bernalillo, which is now the County Seat of Sandoval County.

The first land to be settled by Spanish colonists in the winter of 1540 was near Bernalillo. Like the Pueblo Indians, they farmed the flat lands along the river and throughout the next century, settlers began establishing ranches there.

In the 1620s, the Spanish built mission churches in the Rio Grande pueblos. By 1680, there were 3,000 Spaniards in this region called New Spain, and ten times that many Indians. In 1680, the Indians rose up and drove the Spanish out of the valley back to Mexico, where they stayed for 15 years before returning to New Mexico.

Bernalillo was established as a village in 1695. Vineyards and orchards were planted and were an important industry in the central valley. Sheep ranching in the 18th and 19th centuries was an important occupation of the Spanish land grant families.

In 1848, General Kearney took possession of New Mexico for the United States. In 1849, Sandoval was called Santa Ana County and by 1852, another change established the county borders running across Arizona to the California line. In 1876, Santa Ana County was abolished and the area was annexed to Bernalillo County. In 1903, it was named Sandoval County for a prominent family in the area at the time. Finally on March 16, 1949, the County of Los Alamos was formed from portions of Sandoval and Santa Fe Counties.

In 1942, the Federal government purchased most of what is now Los Alamos County for use in developing the world's first atomic fission weapon. The Atomic

Energy Commission, predecessor to the Department of Energy, took control of Los Alamos Scientific Laboratory (LASL) in 1947. The area became an “open city” in 1957 when restrictive access was lifted. In 1980, the lab’s name was changed to Los Alamos National Laboratory (LANL). LANL continues to be one of the outstanding research centers of the world today, and operates in cooperation with the University of California.

In 2000, the population of Sandoval County was about 89,908 and that of Los Alamos County was about 18,343.

The Geology and Geomorphology of Sandoval County

The geology and geomorphology of Sandoval County is a complex area including portions of two major physiographic divisions. A portion of the northwestern corner of the county falls within the Rocky Mountain System major division, and more specifically within the Southern Rocky Mountains physiographic province. This area is characterized by complex mountains of various types and intermountain basins. The remainder of the county is included within the Intermontane Plateaus major division. Within this division are portions of the Colorado Plateaus physiographic province, Navajo and Datil sections; and the Basin and Range physiographic province, Mexican Highland section.

The Southern Rocky Mountain physiographic province includes the Jemez and Nacimiento mountains. The Nacimiento Mountains are the surface expression of the Nacimiento uplift and fault zone. The western edge of the Nacimiento Mountains is bordered by the westerly dipping Mesozoic rocks of the San Juan Basin. The Nacimiento uplift has been slightly overthrust to the west and formed a prominent hogback between the east edge of the San Juan Basin and the west edge of the uplift. The Nacimiento Fault escarpment extends north to south from northeast of Cuba to a point west of San Ysidro. Most of this escarpment is composed of Precambrian age granite. The granite is overlain by upper Paleozoic rocks in an irregular, 3 to 6 mile wide band along its eastern edge. These are in turn overlain by the younger deposits of volcanic flows and pyroclastics that form the broad based cone surrounding the Jemez volcanic center. The cone extends south to the Jemez Pueblo, and to the west bank of the Rio Grande.

The Jemez Mountains are the dominant physical feature in this area. These mountains were created through volcanic activity. The remnant volcanic caldera is one of the largest caldera features on the earth. Several resurgent domes have risen in the interior of the caldera with the largest cone rising to an elevation of 11,252 feet above sea level. Within the Jemez Mountains, large volumes of volcanic tuff and pumice are found. These materials represent two large eruptions that shaped the form of these mountains. Huge amounts of volcanic gases and ash representing 50 cubic miles of rock materials were ejected from the destroyed composite volcano. Ash clouds drifted as far north and east as Iowa. The welded ash known as the Bandalier Tuff was deposited by these eruptions. Geothermal springs are well represented in these mountains. The source of the hot water is shallow, hot rocks bearing evidence to the areas volcanic past.

The Colorado Plateau physiographic province covers the northwest portion of the county. This area is represented by the southeastern portion of the San Juan Basin. Tertiary aged rocks of the San Jose Formation and the Nacimiento Formation are found at the ground surface. These units consist of sandstone, siltstone, and claystone. Some of the clays have high shrink-swell potential. Some Cretaceous aged marine sandstones and shale are also found on the flanks of the San Juan Basin. Some of the marine deposited shale are quite thick and contribute to water quality issues due to the large amounts of salts found in these units.

The Navajo Section of the Colorado Plateau physiographic province is found in the southwest corner of the survey area. It is characterized by a young plateau with minor relief. The plateau is formed from Cretaceous aged marine sandstone and shale. The landforms represented include mesas and canyons with eroded shale plains. Exposures of underlying Triassic and Jurassic aged rocks are scattered across the area but generally concentrated on the western flanks of the Nacimiento Mountains. These exposures in some cases are the result of erosion of the overlying, relatively soft Cretaceous rocks, but more commonly due to the movement of deep seated faults. Volcanic necks and lava flows are found in the westernmost portion of this area. These Tertiary aged rocks and flows are scattered through the Rio Puerco valley. The western extent of these flows form Mesa Chivato. Cabezon Peak is the largest and best known volcanic neck in the region. Its prominent profile is due to the erosion of softer Cretaceous aged rocks that surround the more erosive resistant volcanic materials.

The Navajo Section is drained by the Rio Puerco. The river is deeply incised within the highly erosive silty to sandy soils. Some of the extent of the erosion was caused by relocation of the channel south of Cuba by the highway department. The relocation of the channel caused a shortening and steepening of the channel geomorphology. The result of these changes caused the river to downcut in excess of 20 feet in some areas. The remainder of the watershed was forced to adjust to the newly created base level. The result of this adjustment was large-scale erosion and the movement of extreme amounts of sediment down the Rio Puerco and into the Rio Grande.

The Basin and Range physiographic province located within Sandoval County is found in the southeast corner of the county. The Mexican Highland section is characterized by isolated mountain ranges separated by aggraded desert plains. From the southern and southeastern boundary of the Jemez volcanic deposits, the land surface is covered with the poorly indurated rocks of the Tertiary aged Santa Fe Group. These basin fill deposits are associated with materials moving from surrounding mountains and highlands and filling the down-dropped basins that formed the ancestral Rio Grande River corridor. The extreme southeastern corner of the survey includes the northern end of the Sandia Mountains. The Sandia Mountains are the uplifted portion of a massive fault block that exposes Precambrian aged granite to the west, and is capped with easterly dipping Pennsylvanian aged limestone and sandstone. Geologic hazards, including radon gas and collapsible soils, are associated with alluvial fans and channels draping off the flanks of the Sandia Mountains. The mode of deposition of much of the alluvial fans makes them favorable to the development of collapsible soils.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous

areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Mapping Unit Composition

Soils in this survey area were mapped at two levels of detail. The detail of mapping in an area was selected based on the area's anticipated long term use.

At the most detailed level, mapping units are narrowly defined. Soil boundaries are plotted and verified at closely spaced intervals. Agricultural areas along the Rio Grande Valley were mapped at this level of detail.

Most of the survey area is used as rangeland, and mapping was performed at a less detailed level. The mapping units in this area are broadly defined. Soil boundaries were plotted and verified at widely spaced intervals. In general, these mapping units are less homogeneous and contain more minor soil components areas than the more detailed mapping units. These units are designed primarily for planning the management of large tracts of land as rangeland. They provide general information for development, but the information should be used with caution. Onsite investigation is essential to provide the detail needed for planning intensive land uses.

Climate

Prepared by the Natural Resources Conservation Service National Water and Climate Center, Portland, Oregon.

Climate tables are created from climate stations Cuba, Jemez Springs, Torreon Navajo Mission, and Wolf Canyon, New Mexico.

Thunderstorm days, relative humidity, percent sunshine, and wind information are estimated from First Order station in Albuquerque, New Mexico.

Table 1 gives data on temperature and precipitation for the survey area as recorded at these four climate stations in the period 1971 to 2000. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on the length of the growing season.

In winter, average temperatures are 27.2, 34.9, 30.9 and 24.0 degrees F at Cuba, Jemez Springs, Torreon, and Wolf Canyon, respectively. Average daily minimum temperatures are 10.5, 21.5, 17.4, and 9.3 degrees, respectively. The lowest temperatures on record were -40 degrees at Cuba on February 1, 1951; and -18 degrees at Jemez Springs, -33 degrees at Torreon, and -36 degrees at Wolf Canyon, all on January 6, 1971.

In summer, average temperatures are 64.5, 70.1, 70.0, and 56.7 degrees, respectively, at Cuba, Jemez Springs, Torreon, and Wolf Canyon. Average daily maximum temperatures are 83.1, 86.8, 87.0, and 73.9 degrees, respectively. The highest temperatures ever recorded were 102 degrees at Cuba on July 3, 1953; 101 degrees at Jemez Springs on July 28, 1995; 107 degrees at Torreon on August 9, 1962; and 90 degrees at Wolf Canyon on July 11, 1958.

Growing degree days are shown in Table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

Average annual total precipitation is variable across this soil survey area. In general, lower elevations, mostly in the south and west, receive between 8 and 12 inches of annual precipitation, while to the north amounts increase with elevation, and are generally between 11 and 18 inches. Elevations above 7,000 feet receive up to 30 inches or more, depending on slope and other factors. Average annual precipitation at these four stations is 12.57 inches at Cuba, 17.63 inches at Jemez Springs, 10.80 inches at Torreon, and 24.28 inches at Wolf Canyon (at 8,220 feet in elevation). Generally, about half of the annual precipitation falls between June and September at elevations below 7,500 feet, but in the higher mountainous elevations a greater percentage of precipitation falls as snow during the winter. The heaviest 1-day precipitation amounts during the periods of record were 2.25 inches at Cuba on October 31, 1998; 2.78 inches at Jemez Springs on October 16, 1960; 1.89 inches at

Torreón on August 15, 1994; and 3.35 inches at Wolf Canyon on July 25, 1962. Thunderstorms occur on about 40 days each year (with slightly more at the higher elevations), and most occur between May and September, with more than 22 in July and August.

Average seasonal snowfall over the area also is quite dependent on elevation and location relative to the mountains. Average annual snowfall is 27.6, 32.5, 20.5, and 128.1 inches, respectively, at Cuba, Jemez Springs, Torreón, and Wolf Canyon. The greatest snow depths at any one time during the periods of record were 22 inches at Cuba, recorded on December 20, 1967; 20 inches at Jemez Springs, on January 16, 1987; 16 inches at Torreón on March 22, 2000; and 46 inches at Wolf Canyon on February 2, 1979. On average, about 15 to 25 days per year have at least 1 inch of snow on the ground at lower elevations, while at higher elevations up to 90 days or more are snow-covered. For these four stations, number of days ranges from 18 at Cuba and Torreón, to 25 at Jemez Springs, and 96 days at Wolf Canyon. The heaviest 1-day snowfalls on record were 13.5 inches at Cuba, recorded on March 4, 1964; 19.8 inches at Jemez Springs on January 16, 1987; 14.0 inches at Torreón on March 21, 2000; and 26.0 at Wolf Canyon on January 16, 1987.

The average relative humidity in mid-afternoon is about 40 percent in the winter and between 15 and 20 percent in the summer. Humidity is higher at night, and the average at dawn is about 70 percent in the winter and 45 percent in the summer. The sun shines about 75 to 80 percent of the time in summer and around 65 to 70 percent in winter. The prevailing wind is from the northwest in the winter and early spring and from the south and southeast the remainder of the year. Average wind speed is highest, around 12 miles per hour, in April.

General Soil Map Unit Descriptions

The general soil map in this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one map unit can occur in another but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

Soil Descriptions

Dry soils on plateaus and flood plains

This group consists of two map units and makes up about 9 percent of the survey area. The slopes range from 0 to 15 percent, but included areas range to 40 percent. The present vegetation consists of grass and shrubs. Elevation is 5,000 to 6,000 feet. The average annual precipitation is 8 to 10 inches; the average annual air temperature is 53 to 55 degrees F., and the average frost-free period is 140 to 160 days.

The soils in this group formed in alluvium and eolian material derived from sediment of mixed sources.

The soils in this group are used for irrigated farming, urban development, and wildlife habitat.

1. Gilco-Trail-Peralta

Very deep soils on the flood plain of the Rio Grande River

This map unit is in the east-central part of the survey area along the Rio Grande River. The slopes range from 0 to 4 percent. The native vegetation on this unit consists mainly of grasses and shrubs. Elevation is 5,000 to 6,000 feet. The average annual precipitation is 8 to 10 inches; the average annual air temperature is 53 to 55 degrees F., and the average frost-free period is 140 to 160 days.

This unit makes up about 3 percent of the survey area. It is about 34 percent Gilco and similar soils, 26 percent Trail and similar soils, and 15 percent Peralta soils. The remaining 25 percent is comprised of components of minor extent.

Gilco soils are on the flood plain of the Rio Grande River. These soils are very deep, moderately well drained, and moderately permeable. They formed in stream alluvium. The surface layer is brown loam about 4 inches thick. The underlying material is light yellowish brown stratified silt loam, loam, and fine sandy loam to a depth of 60 inches or more.

Trail soils are on the flood plain of the Rio Grande. These soils are very deep, moderately well drained, and moderately rapidly permeable. They formed in eolian material and stream alluvium. The surface layer is light yellowish brown fine sandy loam about 9 inches thick. The upper 27 inches of the underlying material is very pale brown loamy sand. The lower part is very pale brown sandy loam to a depth of 60 inches or more.

Peralta soils are on the flood plain of the Rio Grande. These soils are very deep, somewhat poorly drained, and moderately permeable. They formed in stream alluvium. The surface layer is brown loam about 10 inches thick. The underlying layer is stratified brown, light yellowish brown, pale brown, and yellowish brown very fine sandy loam, fine sandy loam, loamy sand, and loamy fine sand, with thin lenses of silt loam, and clay loam to a depth of 60 inches or more.

Other soils and miscellaneous areas in this unit are Jocity and Sparham soils and Riverwash along the Rio Grande channel.

This unit is used mainly for irrigated crops. It is also used for wildlife habitat, urban development, and livestock grazing. The hazard of soil blowing and seepage are the main limitations for most uses.

This unit supports a diversity of wildlife habitats, including riparian trees, river, and wetland; irrigated croplands, orchards, and rural residential.

Characteristic wildlife includes raccoon, striped skunk, cottontail rabbit, pocket gopher, mourning dove, pheasant, swallow, bullsnake, and woodhouse toad. The aquatic and wetland habitats support beaver, muskrat, and bullfrogs. This unit is an important migratory corridor for sandhill cranes, snow geese, and ducks.

2. Sheppard-Grieta

Very deep soils on dunes and ridges

This map unit is in the south-central part of the survey area. The slopes range from 1 to 15 percent. The vegetation on this unit consists mainly of grasses and shrubs. Elevation is 5,000 to 6,000 feet. The average annual precipitation is 8 to 10 inches; the average annual air temperature is 53 to 55 degrees F., and the average frost-free period is 140 to 160 days.

This unit makes up about 6 percent of the survey area. It is about 45 percent Sheppard soils and 43 percent Grieta soils. The remaining 12 percent is comprised of components of minor extent.

Sheppard soils are on dunes. These soils are very deep, somewhat excessively drained, and rapidly permeable. They formed in eolian sands. The surface layer is light brown loamy fine sand about 3 inches thick. The upper 24 inches of the underlying material is strong brown loamy fine sand. The lower part is pink loamy fine sand to a depth of 60 inches or more.

Grieta soils are on ridges. These soils are very deep, well drained, and moderately permeable. They formed in eolian material and fan alluvium. The surface layer is brown loamy fine sand about 7 inches thick. The subsoil is yellowish brown and pale brown sandy clay loam about 14 inches thick. The substratum is light yellowish brown, white, and very pale brown coarse sandy loam to a depth of 60 inches or more.

Other soils in this unit are Cascajo, Embudo, and Tijeras soils.

This unit is used mainly for urban development. It is also used for wildlife habitat and livestock grazing. A hazard of soil blowing due to the sandy surface layers is the main limitation to most uses. Vegetative cover aids in the control of soil blowing.

This unit furnishes a desert grassland wildlife habitat which has been heavily impacted by human activities. While the vegetative base is in fair or good condition, the habitat has been degraded.

Characteristic wildlife includes coyote, badger, kit fox, scaled quail, horned lark, western kingbird, collared lizard, and prairie rattlesnake.

Moist soils on valley floors, valley sides, plateaus, cuestras, and mesas

This group consists of 11 map units. It makes up about 82 percent of the survey area. The slopes range from 0 to 60 percent but may climb to 70 percent. The present vegetation consists of grass and trees. Elevation is dominantly 5,500 to 6,500 feet, but ranges from 5,000 to 7,500 feet. The average annual precipitation is 10 to 16 inches; the average annual air temperature is 48 to 54 degrees F., and the average frost-free period is 110 to 140 days.

The soils formed in alluvium, colluvium, and eolian materials derived from volcanic rocks, gypsum, limestone, sandstone, and shale.

This group is used for livestock grazing, fuel wood, and wildlife habitat.

3. Harvey-Cascajo-Ildefonso*Very deep soils on mesas, hills, and fan terraces*

This map unit is in the eastern part of the survey area. The slopes range from 1 to 45 percent. The vegetation on this unit consists mainly of grasses and shrubs. Elevation is 6,300 to 6,500 feet. The average annual precipitation is 10 to 13 inches; the average annual air temperature is 52 to 54 degrees F.; and the average frost-free period is 120 to 140 days.

This unit makes up about 9 percent of the survey area. It is about 30 percent Harvey and similar soils, 23 percent Cascajo and similar soils, and 22 percent Ildefonso and similar soils. The remaining 25 percent is comprised of components of minor extent.

Harvey soils are on mesas. These soils are very deep, well drained, and moderately permeable. They formed in eolian material and fan alluvium. The surface layer is pinkish gray loam about 4 inches thick. The subsoil is pinkish gray loam about 6 inches thick. The upper 31 inches of the substratum is pinkish gray and pink clay loam. The lower part is reddish yellow sandy clay loam to a depth of 60 inches or more.

Cascajo soils are on hills. These soils are very deep, excessively drained, and rapidly permeable. They formed in fan alluvium. The surface layer is pale brown and very pale brown very gravelly sandy loam about 5 inches thick. The upper 6 inches of the underlying material is very pale brown very gravelly sandy loam. The next 19 inches is pale and light brown very gravelly loamy sand. The lower part is light brown extremely cobbly loamy sand to a depth of 60 inches or more.

Ildefonso soils are on fan terraces. These soils are very deep, well drained, and moderately rapidly permeable. They formed in colluvium and fan alluvium. The surface layer is brown cobbly loam about 2 inches thick. The subsoil is brown and pale brown very gravelly loam about 11 inches thick. The upper 27 inches of the substratum is very pale brown very cobbly sandy loam. The lower part is very pale brown extremely cobbly sand to a depth of 60 inches or more.

Other soils and miscellaneous areas in this unit are Skyvillage, Pastura, and Placitas soils, and Riverwash.

This unit is used mainly for livestock grazing. It is also used for wildlife habitat and urban development. Slope and droughtiness are the main limitations to most uses. Overgrazing is an important concern of management because it increases the risk of water erosion, and promotes an increase of undesirable plants.

This unit contains both desert grassland and juniper grassland wildlife habitats. There is little habitat diversity other than shrub thickets in the drainage ways.

Characteristic wildlife includes coyote, kit fox, blacktailed jackrabbit, kangaroo rat, spotted ground squirrel, horned lark, burrowing owl, scaled quail, striped whiptail lizard, bullsnake, and western rattlesnake.

4. Pinavetes-Clovis-Zia

Very deep soils on dunes, plains, alluvial fans, and stream terraces

This map unit is in the central part of the survey area. The slopes range from 1 to 35 percent. The vegetation on this unit consists mainly of grasses and shrubs with scattered trees. Elevation is 5,100 to 7,200 feet. The average annual precipitation is 10 to 13 inches. The average annual air temperature is 52 to 54 degrees F.; the average frost-free period is 120 to 140 days.

This unit makes up about 9 percent of the survey area. It is about 32 percent Pinavetes soils, 25 percent Clovis soils, and similar soils, and 23 percent Zia soils. The remaining 20 percent is comprised of components of minor extent.

Pinavetes soils are on dunes. These soils are very deep, excessively drained, and rapidly permeable. They formed in eolian sands derived dominantly from sandstone. The surface layer is light yellowish brown loamy sand about 10 inches thick. The underlying material is light yellowish brown sand to a depth of 60 inches or more.

Clovis soils are on plains. These soils are very deep, well drained, and moderately permeable. They formed in eolian material and slope alluvium. The surface layer is pale brown fine sandy loam about 3 inches thick. The subsoil is brown sandy clay loam about 19 inches thick. The substratum is light brown and reddish yellow sandy clay loam to a depth of 60 inches or more.

Zia soils are on alluvial fans and stream terraces. These soils are very deep, well drained, and moderately rapidly permeable. They formed in eolian material and fan and stream alluvium. The surface layer is pale brown sandy loam about 5 inches thick. The upper 9 inches of the underlying material is pale brown sandy loam. The lower part is light gray, very pale brown, and light yellowish brown sandy loam and sandy clay loam to a depth of 60 inches or more.

Other soils and miscellaneous areas in this unit are Sandoval and Skyvillage soils, Rock outcrop, and Riverwash.

This unit is used mainly for livestock grazing. It is also used for wildlife habitat and urban development. Soil blowing is the main limitation for most uses. Overgrazing is an important concern of management because it increases the risk of soil blowing and promotes an increase in undesirable plants.

This unit consists of desert shrub, and desert grassland wildlife habitat is interspersed by thin shrub thickets along drainageways. Habitats have been rated as fair for pronghorn and poor for mule deer.

Characteristic wildlife include coyote, kit fox, pronghorn antelope, blacktailed jackrabbit, spotted ground squirrel, horned lark, prairie falcon, meadowlark, horned lizard, bullsnake, and prairie rattlesnake.

5. Sparank

Very deep soils on alluvial fans

This map unit is in the west-central part of the survey area. The slopes range from 0 to 3 percent. The vegetation on this unit consists mainly of grasses and shrubs. Elevation is 5,500 to 6,400 feet. The average annual precipitation is 10 to 13 inches; the average annual air temperature is 52 to 54 degrees F., and the average frost-free period is 120 to 140 days.

This unit makes up about 3 percent of the survey area. It is about 82 percent Sparank and similar soils. The remaining 18 percent is comprised of components of minor extent.

Sparank soils are on alluvial fans. These soils are very deep, well drained, and very slowly permeable. They formed in stream alluvium. The surface layer is brown clay loam about 2 inches thick. The upper 22 inches of the underlying material is brown silty clay. The lower part is pale brown and dark grayish brown silty clay and silty clay loam to a depth of 60 inches or more.

Other soils and miscellaneous areas in this unit are Orlie, Pinavetes, and Zia soils, and Riverwash.

This unit is used mainly for livestock grazing. It is also used for wildlife habitat, irrigated crops, and urban development. A hazard of flooding, slow permeability, and gullying are the main limitations for most uses. Overgrazing is an important concern of management because it increased the risk of flooding and gullying and promotes an increase in undesirable plants.

This unit consists of valley and bottomland grasslands wildlife habitats which are mostly in poor vegetative condition. Diversity of vegetation is provided by seasonal streamflow, wetlands, salt flats, and scattered thickets of trees or shrubs.

Characteristic wildlife includes blacktailed jackrabbit, pocket gopher, prairie dog, scaled quail, sandpiper, woodhouse toad, and garter snake.

6. Rock outcrop-Frijoles-Hackroy

Rock outcrop and deep to shallow soils on narrow mesas and plateaus formed from tuff and pumice

This map unit is in the northeastern part of the survey area. The slopes range from 1 to 8 percent. The vegetation consists mainly of pinyon and juniper. Elevation is 6,000 to 7,500 feet. The average annual precipitation is 13 to 16 inches; the average annual air temperature is 48 to 52 degrees F.; and the average frost-free period is 110 to 130 days.

This unit makes up about 3 percent of the survey area. It is about 52 percent Rock outcrop, 14 percent Frijoles soils, and 14 percent Hackroy soils. The remaining 20 percent is comprised of components of minor extent.

Rock outcrop is found on the edges and sides of mesas.

Frijoles soils are on mesas. These soils are deep, well drained, and moderately permeable. They formed in eolian material and alluvium. The surface layer is brown very fine sandy loam about 3 inches thick. The subsoil is brown very gravelly clay loam about 10 inches thick. The upper 7 inches of the substratum is pinkish gray extremely gravelly sandy loam. The lower part is pinkish white pumice pebbles to a depth of 60 inches or more.

Hackroy soils are on plateaus. These soils are very shallow or shallow, well drained, and slowly permeable. They formed in residuum. The surface layer is brown sandy loam about 3 inches thick. The subsoil is reddish brown clay about 10 inches thick. Tuff is at a depth of 13 inches.

Other soils in this unit are Hagerman, Nyjack, Penistaja, and Totavi.

This unit is used mainly for wildlife habitat. It is also used for urban development. Depth to tuff and pumice are the main limitations for most uses.

This unit contains a complex of wildlife habitat types. The valley is a combination of juniper grassland and shrub-forb grassland. Upslope there are valuable browse plants such as oak, sumac, saltbush, and sagebrush. There are pinyon-juniper woodlands on mesa tops and northern slopes. Stringers of ponderosa pine follow drainages and eastern slopes at higher elevations.

Characteristic wildlife includes mountain cottontail, coyote, woodrat, valley pocket gopher, scrub jay, raven, fence lizard, and western diamondback rattlesnake. The band-tailed pigeon uses this unit when foraging for oak acorns and pinyon nuts. The prominent rock outcrops furnish habitat for the ringtail, bats, and several hawks.

7. Bamac-Espiritu-Cochiti

Very deep soils on fan remnants, mountain slopes, and fan terraces

This map unit is in the east-central part of the survey area. The slopes range from 1 to 50 percent. The vegetation on this unit consists mainly of pinyon and juniper with an understory of grasses and shrubs. Elevation is 5,400 to 6,500 feet. The average

annual precipitation is 13 to 16 inches; the average annual air temperature is 48 to 52 degrees F.; and the average frost-free period is 110 to 130 days.

This unit makes up about 5 percent of the survey area. It is about 38 percent Bamac, 30 percent Espiritu and similar soils, and 13 percent Cochiti and similar soils. The remaining 19 percent is comprised of components of minor extent.

Bamac soils are on fan remnants. These soils are very deep, excessively drained, and very rapidly permeable. They formed in slope and fan alluvium. The surface layer is light yellowish brown very gravelly loamy sand about 4 inches thick. The upper 6 inches of the underlying material is light yellowish brown loamy sand. The lower part is very pale brown, pale brown, and pink very gravelly loamy coarse sand to a depth of 60 inches or more.

Espiritu soils are on mountain slopes. These soils are very deep, well drained, and moderately permeable. They formed in slope alluvium and colluvium. The surface layer is brown very gravelly fine sandy loam about 6 inches thick. The subsoil is brown and light brown very gravelly sandy clay loam about 16 inches thick. The substratum is stratified pale brown, strong brown, and reddish yellow very cobbly sandy clay loam, fine sandy loam, and very gravelly sandy loam to a depth of 60 inches or more.

Cochiti soils are on fan terraces. These soils are very deep, well drained, and slowly permeable. They formed in gravelly alluvium. The surface layer is dark yellowish brown gravelly loam about 7 inches thick. The upper 13 inches of the subsoil is reddish brown gravelly clay loam and very gravelly clay. The lower 9 inches is light reddish brown very gravelly clay loam. The substratum is light reddish brown very gravelly sandy loam to a depth of 60 inches or more.

Other soils and miscellaneous areas in this unit are Elpedro, Flugle, and Montecito soils, and Rock outcrop.

This unit is used mainly for livestock grazing. It is also used for wildlife habitat and fuel wood production. A hazard of droughtiness, slope, and sandy surface layer are the main limitations for most uses. Overgrazing is an important concern of management because it increases the risk of water erosion and promotes an increase in undesirable plants.

This unit provides pinyon-juniper wildlife habitat which furnishes winter range for elk and mule deer.

Characteristic wildlife includes coyote, gray fox, rock squirrel, pinyon jay, plain titmouse, redtail hawk, short horned lizard, and blacktailed rattlesnake.

8. Silver-Ildefonso-Clovis

Very deep soils on mesas, fan terraces, and plains

This map unit is in the central part of the survey area. The slopes range from 1 to 15 percent. The vegetation on this unit consists mainly of grasses and shrubs. Elevation is 5,600 to 7,300 feet. The average annual precipitation is 10 to 13 inches; the average annual air temperature is 52 to 54 degrees F.; and the average frost-free period is 120 to 140 days.

This unit makes up about 8 percent of the survey area. It is about 43 percent Silver and similar soils, 20 percent Ildefonso and similar soils, and 19 percent Clovis and similar soils. The remaining 18 percent is comprised of components of minor extent.

Silver soils are on mesas. These soils are very deep, well drained, and slowly permeable. They formed in eolian material and slope alluvium. The surface layer is pale brown loam about 4 inches thick. The upper 16 inches of the subsoil is light brown and brown silty clay loam. The lower 19 inches is brown clay loam. The substratum is brown clay loam to a depth of 60 inches or more.

Ildefonso soils are on fan terraces. These soils are very deep, well drained, and moderately rapidly permeable. They formed in fan alluvium and colluvium derived from basalt. The surface layer is brown cobbly loam about 2 inches thick. The subsoil

is brown and pale brown very gravelly loam about 11 inches thick. The substratum is very pale brown very cobbly sandy loam and extremely cobbly sand to a depth of 60 inches or more.

Clovis soils are on plains. These soils are very deep, well drained, and moderately permeable. They formed in eolian material and slope alluvium. The surface layer is pale brown fine sandy loam about 3 inches thick. The subsoil is brown sandy clay loam about 19 inches thick. The substratum is light brown and reddish yellow sandy clay loam to a depth of 60 inches or more.

Other soils and miscellaneous areas in this unit are Sandoval, Orejas, and Prieta soils, and Rock outcrop.

This unit is used for livestock grazing. It is also used for wildlife habitat. Overgrazing is an important concern of management because of the increase in undesirable plants.

This unit consists of a mesa grassland wildlife habitat.

Characteristic wildlife includes coyote, blacktailed jackrabbit, ground squirrel, least chipmunk, prairie falcon, golden eagle, and bullsnake.

9. Royosa-Fragua

Very deep soils on dunes and fan remnants

This map unit is in the central part of the survey area. The slopes range from 1 to 8 percent. The vegetation on this unit consists mainly of pinyon and juniper with a grass understory. Elevation is 5,600 to 6,200 feet. The average annual precipitation is 13 to 16 inches; the average annual air temperature is 48 to 52 degrees F. and the average frost-free period is 110 to 130 days.

This unit makes up about 6 percent of the survey area. It is about 60 percent Royosa and similar soils and 35 percent Fragua and similar soils. The remaining 5 percent is comprised of components of minor extent.

Royosa soils are on dunes. These soils are very deep, somewhat excessively drained, and very rapidly permeable. They formed in eolian sands. The surface layer is very pale brown sand about 5 inches thick. The underlying material is brown and brownish yellow sand and loamy sand to a depth of 60 inches or more.

Fragua soils are on fan remnants. These soils are very deep, well drained, and moderately rapidly permeable. They formed in fan alluvium and eolian material derived from sandstone. The surface layer is brown loamy sand about 3 inches thick. The subsoil is brown sandy loam about 21 inches thick. The substratum is brown sandy loam to a depth of 60 inches or more.

Other soils and miscellaneous areas in this unit are San Mateo soils and Rock outcrop.

This unit is used mainly for livestock grazing. It is also used for wildlife habitat and fuel wood production. A hazard of droughtiness, soil blowing, and a sandy surface layer are the main limitations for most uses. Overgrazing is an important concern of management because it increases the risk of soil blowing and promotes an increase in undesirable plants.

This unit provides juniper grassland and pinyon-juniper woodland wildlife habitats. Habitat condition is low and provides poor winter range for elk and mule deer.

10. Blancot-Badland-Councilor

Very deep soils and Badland on valley sides and stream terraces

This map unit is in the northwestern part of the survey area. The slopes range from 1 to 8 percent. The vegetation on this unit consists mainly of grasses and shrubs with widely scattered trees. Elevation is 6,600 to 7,000 feet. The average annual precipitation is 10 to 13 inches; the average annual air temperature is 48 to 52 degrees F.; and the average frost-free period is 120 to 140 days.

This unit makes up about 5 percent of the survey area. It is about 31 percent Blancot and similar soils, 25 percent Badland, and 20 percent Councilor soils. The remaining 24 percent is comprised of components of minor extent.

Blancot soils are on valley sides. These soils are very deep, well drained, and moderately slowly permeable. They formed in fan alluvium. The surface layer is pale brown fine sandy loam about 2 inches thick. The subsoil is grayish brown and yellowish brown clay loam about 21 inches thick. The substratum is pale brown and light brownish gray sandy loam with thin strata of silty clay loam to a depth of 60 inches or more.

Badland areas are on ridges and side slopes. They are derived from shale.

Councilor soils are on stream terraces. These soils are very deep, well drained, and moderately rapidly permeable. They formed in eolian material and stream alluvium. The surface layer is pale brown fine sandy loam about 2 inches thick. The upper 35 inches of the underlying material is pale brown fine sandy loam. The next 3 inches is pale brown clay loam. The lower part is pale brown sandy loam to a depth of 60 inches or more.

Other soils in this unit are Doakum, Mespun, Tsosie, and Lybrook soils.

This unit is used mainly for livestock grazing. It is also used for wildlife habitat. A hazard of soil blowing, gulying, and water erosion are the main limitations for most uses. Overgrazing is an important concern of management because it increases the risk of soil blowing and gulying and promotes an increase of undesirable plants.

This unit provides a grassland wildlife habitat of low rating.

Characteristic wildlife includes coyote, prairie dog, pocket gopher, blacktailed jackrabbit, burrowing owl, horned lark, meadowlark, horned lizard, and western toad.

11. Sandoval-Querencia-Zia

Shallow and very deep soils on ridges, alluvial fans, and stream terraces

This map unit is in the west-central part of the survey area. The slopes range from 1 to 30 percent. The vegetation on this unit consists mainly of grasses and shrubs. Elevation is 5,100 to 7,000 feet. The average annual precipitation is 10 to 13 inches; the average annual air temperature is 52 to 54 degrees F.; and the average frost-free period is 120 to 140 days.

This unit makes up about 20 percent of the survey area. It is about 31 percent Sandoval and similar soils, 27 percent Querencia and similar soils, and 17 percent Zia and similar soils. The remaining 25 percent is comprised of components of minor extent.

Sandoval soils are on ridges. These soils are shallow, well drained, and moderately slowly permeable. They formed in slope alluvium. The surface layer is light yellowish brown fine sandy loam about 2 inches thick. The upper 4 inches of the underlying material is light gray clay loam. The lower part is light brownish gray clay loam to a depth of 15 inches. Shale is at a depth of 15 inches.

Querencia soils are on alluvial fans. These soils are very deep, well drained, and moderately permeable. They formed in fan alluvium and colluvium. The surface layer is light brownish gray sandy clay loam about 4 inches thick. The upper 8 inches of the subsoil is light yellowish brown clay loam. The lower 12 inches is pale yellow loam. The substratum is pale yellow loam to a depth of 60 inches or more.

Zia soils are on stream terraces and alluvial fan. These soils are very deep, well drained, and moderately rapidly permeable. They formed in eolian material and fan and stream alluvium. The surface layer is pale brown sandy loam about 5 inches thick. The underlying material is pale brown, light gray, very pale brown, and light yellowish brown sandy loam and sandy clay loam to a depth of 60 inches or more.

Other soils and miscellaneous areas in this unit are Saido, Camino, Winona, San Mateo, and Sparank soils, and Rock outcrop.

This unit is used mainly for livestock grazing. It is also used for wildlife habitat. The hazard of soil blowing and water erosion are the main limitations for most uses. Overgrazing is an important concern of management because it increases the hazard of soil blowing and water erosion and promotes an increase of undesirable plants.

This unit furnishes a grassland wildlife habitat with shrubs located in drainages and on eroded areas. There is a herd of pronghorn antelope located east of Cabezon Peak. Overall pronghorn antelope habitat has been rated as low. An important migration route for elk and mule deer lies between Sierra Nacimiento and La Ventana Mesa.

Characteristic wildlife includes pronghorn antelope, blacktailed jackrabbit, coyote, kangaroo rat, prairie dog, horned lark, raven, ferruginous hawk, and golden eagle.

12. Menefee-Vessilla-Orlie

Shallow and very deep soils on hillslopes, mesas, and cuestras

This map unit is in the western and northwestern parts of the survey area. The slopes range from 2 to 60 percent. The vegetation consists mainly of pinyon and juniper. Elevation is 6,500 to 8,000 feet. The average annual precipitation is 13 to 16 inches; the average annual air temperature is 48 to 52 degrees F.; and the frost-free period is 110 to 130 days.

This unit makes up about 12 percent of the survey area. It is about 26 percent Menefee and similar soils, 25 percent Vessilla and similar soils, and 25 percent Orlie and similar soils. The remaining 24 percent is comprised of components of minor extent.

Menefee soils are on hillslopes. These soils are shallow, well drained, and slowly permeable. They formed in colluvium and residuum. The surface layer is light yellowish brown clay loam about 5 inches thick. The underlying material is light olive brown and light brownish gray clay loam to a depth of 17 inches. Shale is at a depth of 17 inches.

Vessilla soils are on structural benches and mesas. These soils are shallow or very shallow, well drained, and moderately rapidly permeable. They formed in eolian material, slope alluvium and residuum. The surface layer is light yellowish brown gravelly fine sandy loam about 2 inches thick. The underlying material is light brown gravelly fine sandy loam about 9 inches thick. Sandstone is at a depth of 11 inches.

Orlie soils are on cuestras. These soils are very deep, well drained, and moderately slowly permeable. They formed in fan alluvium and eolian material. The surface layer is pale brown loam about 2 inches thick. The subsoil is brown clay loam about 20 inches thick. The substratum is pale brown and brown silty clay loam and clay loam to a depth of 60 inches or more.

Other soils and miscellaneous areas in this unit are Sparham, Teco, and Wauquie soils, Rock outcrop, and Badland.

This unit is used mainly for livestock grazing. It is also used for wildlife habitat and fuel wood production. Shallow soil depth, water erosion hazard and slope are the main limitations for most uses. Overgrazing is an important concern of management because it increases the risk of water erosion and gully and promotes an increase in undesirable plants.

This unit occurs as widely scattered wildlife habitats dominated by pinyon-juniper woodland, but also including rocky areas. Shrubs may be an important habitat component. Sources of water may be scarce in dry years.

Characteristic wildlife includes mule deer, bobcat, porcupine, mountain cottontail, woodrat, scrub jay, junco, Cooper's hawk, brown towhee, and blacktailed rattlesnake.

13. Doakum-Betonnies

Very deep soils on hills

This map unit is in the northwestern part of the survey area. The slopes range from 0 to 8 percent. The vegetation consists mainly of grasses and shrubs with scattered trees. Elevation is 6,600 to 7,000 feet. The average annual precipitation is 10 to 13 inches; the average annual air temperature is 48 to 52 degrees F.; the average frost-free period is 110 to 130 days.

This unit makes up about 2 percent of the survey area. It is about 55 percent Doakum soils, and 35 percent Betonnies soils. The remaining 10 percent is components of minor extent.

Doakum soils are on hills. These soils are very deep, well drained and moderately permeable. They formed in eolian material and slope alluvium. The surface layer is light yellowish brown fine sandy loam about 5 inches thick. The subsoil is brown clay loam and sandy clay loam about 19 inches thick. The substratum to a depth of 60 inches or more is very pale brown loam and clay loam.

Betonnies soils are on hills. These soils are very deep, well drained, and moderately rapidly permeable. They formed in eolian material and slope alluvium. The surface layer is light yellowish brown fine sandy loam about 2 inches thick. The subsoil is brown fine sandy loam and sandy loam about 16 inches thick. The substratum to a depth of 60 inches or more is yellowish brown and pale brown sandy loam.

Other soils in this unit are Blancot, Eslendo, and Mespun soils.

This unit is used mainly for livestock grazing. It is also used for wildlife habitat. Overgrazing is an important concern of management because it increases the risk of soil blowing and gullyng and promotes an increase of undesirable plants.

This unit of desert shrub and desert grassland wildlife habitat is interspersed by thin shrub thickets along drainageways. Habitats have been rated as fair for pronghorn antelope and poor for mule deer.

Characteristic wildlife include coyote, kit fox, pronghorn antelope, blacktailed jackrabbit, spotted ground squirrel, horned lark, prairie falcon, meadowlark, horned lizard, bullsnake, and prairie rattlesnake.

Moist, cold soils on mountain slopes and mountain valleys

This group consists of 2 units. It makes up about 9 percent of the survey area. The slopes range from 1 to 80 percent. The present vegetation consists of mountain grasses and trees. Elevation is 8,000 to 11,000 feet, but included areas range only to 7,500 feet. The average annual precipitation is 20 to 30 inches; the average annual air temperature is 38 to 45 degrees F.; and the average frost-free period is 45 to 90 days.

The soils formed in alluvium and colluvium derived dominantly from tuff and rhyolite.

This group is used for livestock grazing, timber production, and wildlife habitat.

14. Cosey-Jarmillo-Tranquilar

Very deep soils on mountain slopes and stream terraces

This map unit is in the northern part of the survey area. The slopes range from 1 to 20 percent. The vegetation on this unit consists mainly of grasses and shrubs. Elevation is 8,000 to 9,200 feet. The average annual precipitation is 20 to 25 inches; the average annual air temperature is 42 to 45 degrees F.; and the average frost-free period is 60 to 90 days.

This unit makes up about 2 percent of the survey area. It is about 30 percent Cosey and similar soils, 24 percent Jarmillo and similar soils, and 21 percent Tranquilar soils. The remaining 25 percent is components of minor extent.

Cosey soils are on mountain slopes. These soils are very deep, well drained and moderately slowly permeable. They formed in slope alluvium and colluvium. The

surface layer is dark grayish brown and grayish brown silt loam about 15 inches thick. The upper 13 inches of the subsoil is very pale brown gravelly loam. The lower subsoil to 60 inches or more is very pale brown very gravelly sandy clay loam over light brown extremely cobbly clay loam.

Jarmillo soils are on stream terraces. These soils are very deep, well drained, and moderately permeable. They formed in lacustrine sediments, alluvium and colluvium. The surface layer is dark grayish brown loam about 13 inches thick. The subsoil is grayish brown, light brownish gray, very pale brown, light yellowish brown and white loam, fine sandy loam, clay loam, and very fine sandy loam to a depth of 60 inches or more.

Tranquilar soils are on stream terraces. These soils are very deep, somewhat poorly drained, and very slowly permeable. They formed in clayey lacustrine deposits. The surface layer is dark grayish brown silty clay loam about 8 inches thick. The subsurface layer is gray and light gray silty clay loam about 5 inches thick. The upper 21 inches of the subsoil is very dark grayish brown and dark grayish brown clay. The lower subsoil to a depth of 60 inches or more is light yellowish brown and light gray clay.

Other soils in this unit are Cajete, Jarola, and Vastine soils.

This unit is used mainly for livestock grazing. It is also used for wildlife habitat. Short growing period and somewhat poor drainage are the main limitations to use.

This unit consists of a mountain meadow wildlife habitat. There are permanent streams which support trout. This is an important late winter range for elk. Characteristic wildlife includes northern pocket gopher, least chipmunk, meadow mole, garter snake, leopard frog, and tiger salamander.

15. Redondo-Palon-Calaveras

Very deep soils on mountain slopes

This map unit is in the northern part of the survey area. The slopes range from 5 to 80 percent. The vegetation on this unit consists mainly of trees. Elevation is 8,500 to 11,000 feet. The average annual precipitation is 25 to 30 inches; the average annual air temperature is 38 to 42 degrees F.; and the average frost-free period is 45 to 60 days.

This unit makes up about 7 percent of the survey area. It is about 33 percent Redondo and similar soils, 23 percent Palon and similar soils, and 22 percent Calaveras and similar soils. The remaining 22 percent is comprised of components of minor extent.

Redondo soils are on mountain slopes. These soils are very deep, well drained, and moderately rapidly permeable. They formed in colluvium. The surface layer is grayish brown coarse sandy loam about 2 inches thick. The subsurface layer is light brownish gray and light gray coarse sandy loam about 13 inches thick. The upper 7 inches of the subsoil is pink coarse sandy loam. The lower subsoil is light gray and light brown gravelly coarse sandy loam, very gravelly coarse sandy loam, extremely gravelly coarse sandy loam, and extremely cobbly coarse sandy loam to a depth of 60 inches or more.

Palon soils are on mountain slopes. They formed in colluvium and slope alluvium. These soils are very deep, well drained, and moderately rapidly permeable. The surface layer is dark gray and light brownish gray very cobbly sandy loam and extremely cobbly sandy loam about 8 inches thick. The subsurface layer is light gray extremely cobbly sandy loam about 22 inches thick. The subsoil is pink very cobbly sandy loam with light brown sandy clay loam lamellae to a depth of 60 inches or more.

Calaveras soils are on mountain slopes. These soils are very deep, well drained, and moderately permeable. They formed in colluvium. The surface layer is grayish brown and pale brown silt loam about 11 inches thick. The upper 19 inches of the

subsoil is pale brown gravelly silt loam and very cobbly loam. The lower part is light brown extremely cobbly coarse sandy loam and extremely cobbly loamy sand to a depth of 60 inches or more.

Other soils and miscellaneous areas in this unit are Cypher, Osha, Sedmar, Tocal, and Totavi soils, Rubble land, and Rock outcrop.

This unit is used mainly for timber production. It is also used for wildlife habitat. The slopes are the main limitation for most uses.

This unit furnishes montane conifer forest wildlife habitats. The endangered Jemez Mountain Salamander is found within drainages containing volcanic talus.

Characteristic wildlife includes elk, mule deer, black bear, tassel eared and red squirrel, sapsucker, hairy woodpecker, and Clark's nutcracker.

Detailed Soil Map Units

The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown

on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Sparham clay loam is a phase of the Sparham series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Flugle-Waumac complex, 1 to 8 percent slopes is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Orlie-Sparham association, 0 to 5 percent slopes is an example.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Riverwash is an example.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The *Glossary* defines many of the terms used in describing the soils or miscellaneous areas.

1—Silver-Clovis loams, 1 to 7 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,600 to 7,300 feet (1,707 to 2,225 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Silver and similar soils: 55 percent

Clovis and similar soils: 35 percent

Minor components: 10 percent

Component Descriptions

Silver soils

Landscape: Uplands

Landform: Mesas, plateaus, hills, fan remnants

Position on landform: Toeslopes

Position on landform: Side slope

Parent material: Eolian deposits over slope alluvium derived from sandstone and shale

Slope: 1 to 7 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 11.7 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, spike muhly, needlegrass, winterfat

Land capability subclass (irrigated): 4e

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 4 inches; loam

Bt1—4 to 8 inches; silty clay loam

Bt2—8 to 20 inches; silty clay loam

Bt3—20 to 39 inches; clay loam

C—39 to 60 inches; clay loam

Clovis soils

Landscape: Uplands

Landform: Fan remnants, plains

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Eolian deposits over slope alluvium derived from sandstone and shale

Slope: 1 to 7 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 9.6 inches (high)

Shrink-swell potential: About 3.5 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: About 20 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, bottlebrush squirreltail

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 3 inches; loam

Bt—3 to 20 inches; clay loam

Bk1—20 to 40 inches; sandy clay loam

Bk2—40 to 60 inches; fine sandy loam

Minor Components

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

Prieta and similar soils

Composition: About 5 percent

Slope: 1 to 7 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Malpais

2—Clovis-Prieta-Silver association, 3 to 15 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,600 to 7,300 feet (1,707 to 2,225 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Clovis and similar soils: 35 percent

Prieta and similar soils: 35 percent

Silver and similar soils: 20 percent

Minor components: 10 percent

Component Descriptions

Clovis soils

Landscape: Uplands

Landform: Fan remnants, plains

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Eolian deposits over slope alluvium derived from sandstone and shale

Slope: 3 to 8 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 9.6 inches (high)

Shrink-swell potential: About 2.6 percent (low)

Runoff class: Medium

Calcium carbonate maximum: About 20 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, bottlebrush squirreltail

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 3 inches; loam

Bt—3 to 24 inches; clay loam

Bk—24 to 60 inches; fine sandy loam

Prieta soils

Landscape: Plains

Landform: Mesas, lava flows

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Eolian deposits over slope alluvium derived from basalt

Slope: 3 to 15 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 1.8 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Very high

Calcium carbonate maximum: About 14 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Malpais

Potential native vegetation: blue grama, alkali sacaton, hairy grama, little bluestem, sideoats grama, black grama, spike muhly, wolftail

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; very stony loam

Bt1—3 to 10 inches; very stony clay loam

Bt2—10 to 14 inches; very stony clay loam

Bk—14 to 19 inches; very stony clay loam

R—19 to 60 inches; bedrock

Silver soils

Landscape: Plains

Landform: Fan remnants, hills, mesas, plateaus

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Eolian deposits over slope alluvium derived from sandstone and shale

Slope: 3 to 8 percent

Aspect: East to west

Shape (down/across): Concave/linear

Surface fragments: About 2 percent subrounded cobbles, about 2 percent subrounded gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 11.6 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, spike muhly, bottlebrush squirreltail, needlegrass, winterfat

Land capability subclass (nonirrigated): 6e

Typical Profile:

- A—0 to 8 inches; loam
- Bt—8 to 30 inches; silty clay loam
- C—30 to 60 inches; silty clay loam

Minor Components

Rock outcrop

Composition: About 10 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

3—Montecito-Orejas complex, 1 to 7 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 6,800 to 7,600 feet (2,073 to 2,316 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Montecito and similar soils: 60 percent

Orejas and similar soils: 30 percent

Minor components: 10 percent

Component Descriptions**Montecito soils**

Landscape: Uplands

Landform: Plains, mesas, hills

Position on landform: Summits

Position on landform: Side slope

Parent material: Eolian deposits over fan alluvium derived from sandstone and shale

Slope: 1 to 7 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 11.6 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Potential native vegetation:

Common trees: twoneedle pinyon, oneseed juniper

Other plants: blue grama, bottlebrush squirreltail, muttongrass

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 3 inches; fine sandy loam

Bt—3 to 18 inches; clay loam

2Bk—18 to 60 inches; clay loam

Orejas soils*Landscape:* Uplands*Landform:* Plateaus, mesas*Position on landform:* Summits*Position on landform:* Side slope*Parent material:* Eolian deposits over colluvium and/or slope alluvium derived from sandstone and shale*Slope:* 1 to 7 percent*Aspect:* East to west*Shape (down/across):* Linear/linear*Surface fragments:* About 30 percent subrounded cobbles*Depth class:* Shallow*Depth to restrictive feature:* 10 to 20 inches to bedrock (lithic)*Drainage class:* Well drained*Slowest permeability:* 0.2 to 0.6 in./hr. (moderately slow)*Available water capacity:* About 1.9 inches (very low)*Shrink-swell potential:* About 4.5 percent (moderate)*Runoff class:* High*Calcium carbonate maximum:* About 10 percent*Gypsum maximum:* None*Salinity maximum:* About 2 mmhos/cm (nonsaline)*Sodium adsorption ratio maximum:* About 0 (nonsodic)*Ecological site:* Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis*Potential native vegetation:*

Common trees: twoneedle pinyon, oneseed juniper

Other plants: big sagebrush, blue grama, sideoats grama, oneseed juniper, twoneedle pinyon

Land capability subclass (nonirrigated): 7s*Typical Profile:*

A—0 to 2 inches; cobbly loam

Bt1—2 to 5 inches; very cobbly clay loam

Bt2—5 to 14 inches; very cobbly clay loam

Bt3—14 to 17 inches; very cobbly clay loam

C—17 to 19 inches; very gravelly clay loam

R—19 to 60 inches; bedrock

Minor Components

Rock outcrop

Composition: About 10 percent*Depth to restrictive feature:* 0 inches to bedrock (lithic)**4—Montecito complex, 3 to 30 percent slopes****Map Unit Setting***Major Land Resource Area:* 36*Elevation:* 6,000 to 7,000 feet (1,829 to 2,134 meters)*Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Montecito and similar soils: 45 percent

Montecito, bouldery and similar soils: 35 percent

Minor components: 20 percent

Component Descriptions

Montecito soils

Landscape: Uplands

Landform: Hills, mesas, plains

Position on landform: Summits

Position on landform: Side slope

Parent material: Eolian deposits over fan alluvium derived from sandstone and shale

Slope: 3 to 30 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 10.5 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Potential native vegetation:

Common trees: twoneedle pinyon, oneseed juniper

Other plants: blue grama, bottlebrush squirreltail, muttongrass

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 3 inches; fine sandy loam

Bt—3 to 22 inches; clay loam

2Bk—22 to 60 inches; loam

Montecito, bouldery soils

Landscape: Uplands

Landform: Hills, mesas, plains

Position on landform: Summits

Position on landform: Side slope

Parent material: Eolian deposits over fan alluvium derived from sandstone and shale

Slope: 3 to 30 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 9.3 inches (high)

Shrink-swell potential: About 3.7 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: *Pinus edulis*-*Juniperus monosperma*/*Quercus gambelii*/*Bouteloua gracilis*

Potential native vegetation:

Common trees: twoneedle pinyon, oneseed juniper

Other plants: big sagebrush, Gambel oak, blue grama, bottlebrush squirreltail, broom snakeweed, muttongrass, pingue rubberweed, sideoats grama

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 5 inches; extremely bouldery loam

Bt—5 to 28 inches; clay loam

2Bk1—28 to 45 inches; loam

2Bk2—45 to 60 inches; sandy loam

Minor Components

Rock outcrop

Composition: About 10 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

Vessilla and similar soils

Composition: About 5 percent

Slope: 3 to 30 percent

Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Shallow Sandstone

Sandoval and similar soils

Composition: About 5 percent

Slope: 3 to 30 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Shallow

10—Trail silty clay loam, 0 to 1 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,000 to 6,000 feet (1,524 to 1,829 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Trail and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Trail soils

Landscape: Valleys

Landform: Channels, valley floor remnants, flood plains, alluvial fans

Position on landform: Toeslopes

Position on landform: Base slope, rise

Parent material: Eolian deposits over stream alluvium derived from sandstone

Slope: 0 to 1 percent

Aspect: East to west

Shape (down/across): Concave, linear/linear

Depth class: Very deep

Drainage class: Moderately well drained

Slowest permeability: 6.0 to 20 in./hr. (rapid)

Available water capacity: About 4.9 inches (low)

Shrink-swell potential: About 1.6 percent (low)

Flooding hazard: Rare

Seasonal high water table depth: About 48 to 72 inches

Runoff class: Very low

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Bottomland

Potential native vegetation: alkali sacaton, giant sacaton, fourwing saltbush

Land capability subclass (irrigated): 4e

Land capability subclass (nonirrigated): 7s

Typical Profile:

Ap—0 to 6 inches; silty clay loam

C1—6 to 30 inches; stratified loamy sand to sandy loam

C2—30 to 45 inches; sand

C3—45 to 60 inches; loamy fine sand

Minor Components

Aga and similar soils

Composition: About 10 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Gilco and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

11—Trail fine sandy loam, 0 to 1 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,000 to 6,000 feet (1,524 to 1,829 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Trail and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Trail soils

Landscape: Valleys

Landform: Alluvial fans, channels, flood plains, valley floor remnants

Position on landform: Toeslopes

Position on landform: Rise, tread

Parent material: Eolian deposits over stream alluvium derived from sandstone

Slope: 0 to 1 percent

Aspect: East to west

Shape (down/across): Linear, concave/linear

Depth class: Very deep

Drainage class: Moderately well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 5.9 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Occasional

Seasonal high water table depth: About 48 to 72 inches

Runoff class: Very low

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Bottomland

Potential native vegetation: alkali sacaton, giant sacaton, fourwing saltbush

Land capability subclass (irrigated): 4e

Land capability subclass (nonirrigated): 7s

Typical Profile:

Ap—0 to 9 inches; fine sandy loam

C1—9 to 36 inches; stratified loamy sand to sandy loam

C2—36 to 60 inches; sandy loam

Minor Components

Aga and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Gilco and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Riverwash*Composition:* About 3 percent*Landscape:* Valleys*Landform:* Streams, channels*Slope:* 0 to 3 percent*Drainage class:* Somewhat poorly drained*Flooding hazard:* Frequent**Peralta and similar soils***Composition:* About 2 percent*Slope:* 1 to 3 percent*Drainage class:* Somewhat poorly drained*Flooding hazard:* Occasional*Ecological site:* Bottomland**13—Sandoval-Querencia association, 2 to 7 percent slopes****Map Unit Setting***Major Land Resource Area:* 36*Elevation:* 5,800 to 6,400 feet (1,768 to 1,951 meters)*Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 52 to 54 degrees F. (11.1 to 12.2 degrees C.)*Frost-free period:* 120 to 140 days**Map Unit Composition**

Sandoval and similar soils: 65 percent

Querencia and similar soils: 20 percent

Minor components: 15 percent

Component Descriptions**Sandoval soils***Landscape:* Uplands*Landform:* Hills, ridges*Position on landform:* Summits*Position on landform:* Nose slope*Parent material:* Slope alluvium derived from shale*Slope:* 2 to 7 percent*Aspect:* East to west*Shape (down/across):* Convex/linear*Depth class:* Shallow*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)*Drainage class:* Well drained*Slowest permeability:* 0.2 to 0.6 in./hr. (moderately slow)*Available water capacity:* About 2.9 inches (very low)*Shrink-swell potential:* About 4.5 percent (moderate)*Runoff class:* Very high*Calcium carbonate maximum:* About 10 percent*Gypsum maximum:* About 5 percent*Salinity maximum:* About 4 mmhos/cm (very slightly saline)*Sodium adsorption ratio maximum:* About 5 (slightly sodic)*Ecological site:* Shallow

Potential native vegetation: sideoats grama, New Mexico Feathergrass, cane bluestem, little bluestem, galleta

Land capability subclass (nonirrigated): 7s

Typical Profile:

A1—0 to 2 inches; fine sandy loam

A2—2 to 6 inches; clay loam

C1—6 to 10 inches; clay loam

C2—10 to 15 inches; clay loam

Cr—15 to 60 inches; bedrock

Querencia soils

Landscape: Uplands

Landform: Valley sides, stream terraces, alluvial fans

Position on landform: Footslopes

Position on landform: Rise

Parent material: Fan alluvium over colluvium derived from sandstone and shale

Slope: 2 to 7 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 10.2 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, spike muhly, bottlebrush squirreltail, fourwing saltbush, needlegrass, winterfat

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 4 inches; sandy clay loam

Bw—4 to 12 inches; clay loam

Bw—12 to 24 inches; loam

Bk—24 to 60 inches; loam

Minor Components

Camino and similar soils

Composition: About 5 percent

Slope: 1 to 6 percent

Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Clayey

Badland

Composition: About 5 percent

Slope: 5 to 75 percent

Depth to restrictive feature: 0 inches to bedrock (paralithic)

San Mateo and similar soils

Composition: About 3 percent*Slope:* 0 to 3 percent*Drainage class:* Well drained*Flooding hazard:* Rare*Ecological site:* Swale

Skyvillage and similar soils

Composition: About 2 percent*Slope:* 8 to 25 percent*Depth to restrictive feature:* 6 to 20 inches to bedrock (lithic)*Drainage class:* Well drained*Ecological site:* Shallow Sandstone**15—Camino-Sandoval complex, 1 to 8 percent slopes****Map Unit Setting***Major Land Resource Area:* 36*Elevation:* 5,900 to 6,200 feet (1,798 to 1,890 meters)*Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 52 to 54 degrees F. (11.1 to 12.2 degrees C.)*Frost-free period:* 120 to 140 days**Map Unit Composition**

Camino and similar soils: 40 percent

Sandoval and similar soils: 35 percent

Minor components: 25 percent

Component Descriptions**Camino soils***Landscape:* Uplands*Landform:* Valley sides, plateaus*Position on landform:* Backslopes*Position on landform:* Side slope*Parent material:* Fan alluvium over residuum weathered from shale*Slope:* 1 to 6 percent*Aspect:* East to west*Shape (down/across):* Linear/linear*Depth class:* Deep*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)*Drainage class:* Well drained*Slowest permeability:* .06 to 0.2 in./hr. (slow)*Available water capacity:* About 7.8 inches (moderate)*Shrink-swell potential:* About 7.5 percent (high)*Runoff class:* Medium*Calcium carbonate maximum:* About 10 percent*Gypsum maximum:* None*Salinity maximum:* About 4 mmhos/cm (very slightly saline)*Sodium adsorption ratio maximum:* About 5 (slightly sodic)*Ecological site:* Clayey*Potential native vegetation:* alkali sacaton, giant sacaton, western wheatgrass, galleta, blue grama, fourwing saltbush*Land capability subclass (nonirrigated):* 6c

Typical Profile:

A—0 to 2 inches; silty clay loam
Bw1—2 to 5 inches; clay
Bw2—5 to 20 inches; clay
Bk—20 to 51 inches; clay
Cr—51 to 60 inches; bedrock

Sandoval soils

Landscape: Uplands

Landform: Ridges, hills

Position on landform: Summits

Position on landform: Nose slope

Parent material: Slope alluvium derived from shale

Slope: 1 to 8 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 3.3 inches (low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Very high

Calcium carbonate maximum: About 10 percent

Gypsum maximum: About 10 percent

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 13 (moderately sodic)

Ecological site: Shallow

Potential native vegetation: sideoats grama, New Mexico Feathergrass, cane
bluestem, little bluestem, galleta

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 2 inches; fine sandy loam
C—2 to 17 inches; clay loam
Cr—17 to 60 inches; bedrock

Minor Components

Querencia and similar soils

Composition: About 10 percent

Slope: 1 to 8 percent

Drainage class: Well drained

Ecological site: Loamy

Badland

Composition: About 10 percent

Slope: 5 to 75 percent

Depth to restrictive feature: 0 inches to bedrock (paralithic)

Sparank and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Occasional

Ecological site: Clayey Bottomland

16—Rock outcrop-Prieta complex, 3 to 15 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,600 to 7,200 feet (1,707 to 2,195 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Rock outcrop: 50 percent

Prieta and similar soils: 30 percent

Minor components: 20 percent

Component Descriptions

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Ridges, volcanic cones

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Prieta soils

Landscape: Uplands

Landform: Lava flows, mesas

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Eolian deposits over slope alluvium derived from basalt

Slope: 3 to 15 percent

Aspect: East to west

Shape (down/across): Convex/linear

Surface fragments: About 20 percent subrounded stones

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 2.1 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Very high

Calcium carbonate maximum: About 8 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Malpais

Potential native vegetation: blue grama, alkali sacaton, hairy grama, sideoats grama, black grama, little bluestem, spike muhly, wolftail

Land capability subclass (nonirrigated): 7s

Typical Profile:

- A—0 to 5 inches; stony silt loam
- Bt—5 to 15 inches; very stony clay loam
- Bk—15 to 19 inches; very stony clay loam
- R—19 to 60 inches; bedrock

Minor Components

Clovis and similar soils

- Composition:* About 10 percent
- Slope:* 1 to 4 percent
- Drainage class:* Well drained
- Ecological site:* Loamy

Silver and similar soils

- Composition:* About 5 percent
- Slope:* 1 to 7 percent
- Drainage class:* Well drained
- Ecological site:* Loamy

Prieta and similar soils

- Composition:* About 5 percent
- Slope:* 1 to 2 percent
- Drainage class:* Moderately well drained
- Flooding hazard:* Rare
- Ecological site:* Malpais

17—Vessilla-Menefee-Rock outcrop complex, 3 to 15 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,800 to 7,500 feet (2,073 to 2,286 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Vessilla and similar soils: 35 percent

Menefee and similar soils: 25 percent

Rock outcrop: 20 percent

Minor components: 20 percent

Component Descriptions**Vessilla soils**

Landscape: Uplands

Landform: Ridges, breaks, hills, mesas

Position on landform: Shoulders

Position on landform: Nose slope

Parent material: Eolian deposits over slope alluvium derived from sandstone

Slope: 3 to 15 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 1.3 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very high

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: Indian ricegrass, blue grama, mountain big sagebrush, oak, galleta, sideoats grama

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 5 inches; sandy loam

C—5 to 11 inches; sandy loam

R—11 to 60 inches; bedrock

Menefee soils

Landscape: Uplands

Landform: Hillslopes, mesas, mountainsides

Position on landform: Shoulders

Position on landform: Nose slope

Parent material: Colluvium over residuum weathered from shale

Slope: 3 to 15 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 8 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 2.0 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Very high

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, Rocky Mountain juniper, twoneedle pinyon

Other plants: blue grama, galleta, Gambel oak, big sagebrush, sideoats grama

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; clay loam

C—3 to 10 inches; clay loam

2Cr—10 to 60 inches; bedrock

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Breaks, escarpments, ledges

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Minor Components

Orlie and similar soils

Composition: About 10 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

Sparham and similar soils

Composition: About 10 percent

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Flooding hazard: Rare

Ecological site: Clayey

18—Sparham clay, 0 to 3 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 6,500 to 7,500 feet (1,981 to 2,286 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Sparham and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Sparham soils**

Landscape: Valleys

Landform: Flood plains, valley sides, alluvial fans

Position on landform: Toeslopes

Position on landform: Rise

Parent material: Fan alluvium derived from sandstone and shale

Slope: 0 to 3 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 11.8 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Flooding hazard: Occasional

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 16 mmhos/cm (moderately saline)

Sodium adsorption ratio maximum: About 30 (strongly sodic)

Ecological site: Clayey

Potential native vegetation: western wheatgrass, alkali sacaton, bottlebrush
squirreltail, prairie junegrass

Land capability subclass (irrigated): 3s

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 7 inches; clay

C1—7 to 20 inches; clay loam

C2—20 to 29 inches; clay loam

C3—29 to 47 inches; silty clay loam

C4—47 to 53 inches; clay loam

C5—53 to 60 inches; clay loam

Minor Components

Riverwash

Composition: About 5 percent

Landscape: Valleys

Landform: Streams, channels

Position on landform: Toeslopes

Position on landform: Base slope

Slope: 0 to 3 percent

Shape (down/across): Concave/linear

Drainage class: Somewhat poorly drained

Flooding hazard: Frequent

Menefee and similar soils

Composition: About 5 percent

Slope: 5 to 35 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Shallow

Vessilla and similar soils

Composition: About 5 percent

Slope: 5 to 30 percent

Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Shallow Sandstone

20—Gilco clay loam, 0 to 1 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,000 to 6,000 feet (1,524 to 1,829 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Gilco and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Gilco soils

Landscape: Valleys

Landform: Flood plains

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 0 to 1 percent

Aspect: East to west

Shape (down/across): Concave/linear

Surface fragments: About 12 percent subrounded gravel

Depth class: Very deep

Drainage class: Moderately well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 10.2 inches (high)

Shrink-swell potential: About 1.6 percent (low)

Flooding hazard: Rare

Seasonal high water table depth: About 48 to 72 inches

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Bottomland

Potential native vegetation: giant sacaton, alkali sacaton, fourwing saltbush

Land capability subclass (irrigated): 2e

Land capability subclass (nonirrigated): 7c

Typical Profile:

Ap—0 to 6 inches; clay loam

C—6 to 60 inches; stratified fine sandy loam to loam

Minor Components

Peralta and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Flooding hazard: Rare

Ecological site: Bottomland

Sparham and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Occasional

Ecological site: Bottomland

Aga and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

21—Rock outcrop-Hackroy complex, 1 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,000 to 7,200 feet (1,829 to 2,195 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Rock outcrop: 60 percent

Hackroy and similar soils: 25 percent

Minor components: 15 percent

Component Descriptions

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Ledges, escarpments, benches

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Hackroy soils

Landscape: Uplands

Landform: Mesas, plateaus

Position on landform: Summits

Position on landform: Nose slope

Parent material: Residuum weathered from tuff

Slope: 1 to 8 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 8 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 1.7 inches (very low)

Shrink-swell potential: About 7.5 percent (high)

Runoff class: Very high

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, Indian ricegrass, needle and thread, skunkbush sumac
Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; sandy loam
 Bt—3 to 12 inches; clay
 2R—12 to 60 inches; bedrock

Minor Components

Frijoles and similar soils

Composition: About 10 percent

Slope: 1 to 8 percent

Drainage class: Well drained

Ecological site: pinyon-juniper forest

Nyjack and similar soils

Composition: About 5 percent

Slope: 1 to 5 percent

Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: pinyon-juniper forest

22—Aga silty clay loam, 0 to 1 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,000 to 6,000 feet (1,524 to 1,829 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Aga and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Aga soils

Landscape: Valleys

Landform: Flood plains

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 0 to 1 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Moderately well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 6.8 inches (moderate)

Shrink-swell potential: About 1.7 percent (low)

Flooding hazard: Rare

Seasonal high water table depth: About 42 to 60 inches

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Bottomland

Potential native vegetation: giant sacaton, alkali sacaton, fourwing saltbush

Land capability subclass (irrigated): 2s

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 8 inches; silty clay loam

C1—8 to 24 inches; loam

2C2—24 to 60 inches; sand

Minor Components

Gilco and similar soils

Composition: About 10 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Trail and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Somewhat excessively drained

Flooding hazard: Rare

Ecological site: Bottomland

23—Hickman clay loam, 1 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,500 to 7,500 feet (1,981 to 2,286 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Hickman and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Hickman soils

Landscape: Valleys

Landform: Flood plains, valley floors

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 1 to 3 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)
Available water capacity: About 10.9 inches (high)
Shrink-swell potential: About 4.5 percent (moderate)
Flooding hazard: Rare
Runoff class: Low
Calcium carbonate maximum: About 10 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 5 (slightly sodic)
Ecological site: Swale
Potential native vegetation: western wheatgrass, alkali sacaton, big sagebrush, bottlebrush squirreltail
Land capability subclass (irrigated): 3e
Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 4 inches; clay loam
 C1—4 to 12 inches; sandy clay loam
 C2—12 to 49 inches; clay loam
 C3—49 to 60 inches; sandy clay loam

Minor Components

Royosa and similar soils
Composition: About 8 percent
Slope: 1 to 8 percent
Drainage class: Somewhat excessively drained
Ecological site: Deep Sand

Sparham and similar soils
Composition: About 7 percent
Slope: 0 to 1 percent
Drainage class: Somewhat poorly drained
Flooding hazard: Rare
Ecological site: Clayey Bottomland

24—Orlie-Sparham association, 0 to 5 percent slopes

Map Unit Setting

Major Land Resource Area: 36
Elevation: 7,000 to 7,500 feet (2,134 to 2,286 meters)
Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)
Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)
Frost-free period: 110 to 130 days

Map Unit Composition

Orlie and similar soils: 45 percent
 Sparham and similar soils: 35 percent
 Minor components: 20 percent

Component Descriptions

Orlie soils

Landscape: Valleys

Landform: Valley sides, mesas, cuestras, hills

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Eolian deposits over fan alluvium derived from sandstone and shale

Slope: 1 to 5 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 10.0 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Loamy

Potential native vegetation: western wheatgrass, big sagebrush, galleta, Indian ricegrass, needle and thread, fourwing saltbush

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 2 inches; fine sandy loam

Bt—2 to 25 inches; clay loam

C—25 to 60 inches; stratified sandy clay loam to clay loam

Sparham soils

Landscape: Valleys

Landform: Alluvial fans, valley sides, flood plains

Position on landform: Toeslopes

Position on landform: Rise

Parent material: Stream alluvium derived from sandstone and shale

Slope: 0 to 2 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 9.4 inches (high)

Shrink-swell potential: About 7.5 percent (high)

Flooding hazard: Occasional

Runoff class: Medium

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 16 mmhos/cm (moderately saline)

Sodium adsorption ratio maximum: About 30 (strongly sodic)

Ecological site: Clayey

Potential native vegetation: western wheatgrass, alkali sacaton, bottlebrush squirreltail, prairie junegrass

Land capability subclass (irrigated): 3s

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 3 inches; clay

C—3 to 60 inches; silty clay

Minor Components

Menefee and similar soils

Composition: About 10 percent

Slope: 5 to 35 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Shallow

Riverwash

Composition: About 5 percent

Landscape: Valleys

Landform: Streams, channels

Position on landform: Toeslopes

Position on landform: Base slope

Slope: 0 to 3 percent

Shape (down/across): Concave/linear

Drainage class: Somewhat poorly drained

Flooding hazard: Frequent

Sedmar and similar soils

Composition: About 5 percent

Slope: 1 to 15 percent

Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: pinyon-juniper forest

25—Gilco loam, 0 to 1 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,000 to 6,000 feet (1,524 to 1,829 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Gilco and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Gilco soils

Landscape: Valleys

Landform: Flood plains

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 0 to 1 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Moderately well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 8.4 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Rare

Seasonal high water table depth: About 48 to 72 inches

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Bottomland

Potential native vegetation: giant sacaton, alkali sacaton, fourwing saltbush

Land capability subclass (irrigated): 2e

Land capability subclass (nonirrigated): 7e

Typical Profile:

Ap—0 to 4 inches; loam

C1—4 to 34 inches; stratified silt loam to loam to fine sandy loam

C2—34 to 60 inches; stratified fine sandy loam to loam

Minor Components

Aga and similar soils

Composition: About 10 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Sparham and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Occasional

Ecological site: Bottomland

26—Orlie loam, 0 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,200 to 6,800 feet (1,890 to 2,073 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Orlie and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Orlie soils

Landscape: Valleys

Landform: Cuestas, mesas, valley sides, hills

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Eolian deposits over fan alluvium derived from sandstone and shale

Slope: 0 to 8 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 11.8 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Loamy

Potential native vegetation: western wheatgrass, big sagebrush, galleta, Indian ricegrass, needle and thread, fourwing saltbush

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 2 inches; loam

Bt1—2 to 13 inches; clay loam

Bt2—13 to 22 inches; clay loam

C1—22 to 36 inches; silty clay loam

C2—36 to 50 inches; clay loam

C3—50 to 60 inches; silty clay loam

Minor Components

Menefee and similar soils

Composition: About 8 percent

Slope: 5 to 35 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Shallow

Vessilla and similar soils

Composition: About 7 percent

Slope: 1 to 3 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Shallow Sandstone

27—Aga loam, 0 to 1 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,000 to 6,000 feet (1,524 to 1,829 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Aga and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Aga soils

Landscape: Valleys

Landform: Flood plains

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 0 to 1 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Moderately well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 5.0 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Rare

Seasonal high water table depth: About 42 to 60 inches

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Bottomland

Potential native vegetation: giant sacaton, alkali sacaton, fourwing saltbush

Land capability subclass (irrigated): 2s

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 10 inches; loam

C1—10 to 23 inches; loam

2C2—23 to 43 inches; sand

2C3—43 to 60 inches; sand

Minor Components

Gilco and similar soils

Composition: About 10 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Trail and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

29—Trail loamy sand, 0 to 1 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,000 to 6,000 feet (1,524 to 1,829 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Trail and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Trail soils

Landscape: Valleys

Landform: Alluvial fans, channels, flood plains, valley floor remnants



Figure 2.—Typical landscape of Trail loamy sand, 0 to 1 percent slopes, and Riverwash, along the Jemez River.

Position on landform: Toeslopes

Position on landform: Rise, base slope

Parent material: Eolian deposits derived from sandstone over stream alluvium derived from igneous and sedimentary rock

Slope: 0 to 1 percent

Aspect: East to west

Shape (down/across): Linear, concave/linear

Depth class: Very deep

Drainage class: Moderately well drained

Slowest permeability: 6.0 to 20 in./hr. (rapid)

Available water capacity: About 4.1 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Rare

Seasonal high water table depth: About 48 to 72 inches

Runoff class: Very low

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Deep Sand

Potential native vegetation: Indian ricegrass, black grama, dropseed, sand sagebrush

Land capability subclass (irrigated): 4s

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 6 inches; loamy sand

C—6 to 60 inches; stratified loamy sand to sandy loam

Minor Components

Aga and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Peralta and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Flooding hazard: Rare

Ecological site: Bottomland

Gilco and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

31—Riverwash

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,000 to 6,000 feet (1,524 to 1,829 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 54 to 56 degrees F. (12.2 to 13.3 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Riverwash: 90 percent

Minor components: 10 percent

Component Descriptions

Riverwash

Description: Riverwash consists of unstable sand and silt that is reworked by water and wind so frequently, that it supports little or no vegetation.

Landscape: Valleys

Landform: Streams

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 0 to 3 percent

Aspect: East to west

Shape (down/across): Concave/linear

Drainage class: Somewhat poorly drained

Slowest permeability: 6.0 to 20 in./hr. (rapid)

Available water capacity: About 2.9 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Frequent

Runoff class: Very low

Calcium carbonate maximum: About 1 percent

Gypsum maximum: About 1 percent

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 1 (slightly sodic)

Land capability subclass (nonirrigated): 8w

Minor Components

Torrifluvents and similar soils

Composition: About 10 percent

Landscape: Valleys

Landform: Flood plains

Position on landform: Toeslopes

Position on landform: Base slope

Slope: 0 to 1 percent

Aspect: East to west

Shape (down/across): Concave/linear

Drainage class: Moderately well drained

Flooding hazard: Rare

33—Pits

Map Unit Setting

Major Land Resource Area: 36

Map Unit Composition

Pits: 100 percent

Component Descriptions

Pits

Description: Pits consist of quarries and gravel and borrow pits.

Slope: 0 to 4 percent

Aspect: East to west

Runoff class: Low

Land capability subclass (nonirrigated): 8s

34—Idefonso-Witt association, 1 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,200 to 5,700 feet (1,585 to 1,737 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Idefonso and similar soils: 55 percent

Witt and similar soils: 30 percent

Minor components: 15 percent

Component Descriptions

Idefonso soils

Landscape: Uplands

Landform: Hills, fan remnants, mesas

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Fan alluvium over colluvium derived from igneous and sedimentary rock

Slope: 1 to 8 percent

Aspect: East to west

Shape (down/across): Linear/linear

Surface fragments: About 25 percent subrounded gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 5.0 inches (low)

Shrink-swell potential: About 2.2 percent (low)

Runoff class: Medium

Calcium carbonate maximum: About 20 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Limy

Potential native vegetation: thickspike wheatgrass, western wheatgrass, New Mexico Feathergrass, blue grama, hairy grama, winterfat
Land capability subclass (nonirrigated): 7s

Typical Profile:

- A—0 to 3 inches; cobbly loam
- Bk—3 to 17 inches; cobbly loam
- C—17 to 60 inches; stratified very cobbly sandy loam to very cobbly loam

Witt soils

Landscape: Uplands

Landform: Mesas, fan remnants, bajadas

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Eolian deposits derived from sandstone over fan alluvium derived from basalt

Slope: 1 to 5 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 10.0 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: About 20 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, spike muhly, fourwing saltbush, galleta

Land capability subclass (nonirrigated): 6e

Typical Profile:

- A—0 to 3 inches; very fine sandy loam
- Bt—3 to 27 inches; loam
- Bk—27 to 60 inches; loam

Minor Components

Rock outcrop

Composition: About 10 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

Prieta and similar soils

Composition: About 5 percent

Slope: 3 to 15 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Malpais

41—Dune land

Map Unit Setting

Major Land Resource Area: 36

Map Unit Composition

Dune land: 100 percent

Component Descriptions

Dune land

Description: Dune land consists of areas of loose, windblown, generally sandy material, mostly bare of vegetation. Their characteristic shape is low mounds, ridges, or hills. They are capable of movement from place to place.

Landscape: Dune fields

Landform: Shrub-coppice dunes

Position on landform: Shoulders

Position on landform: Side slope

Parent material: Eolian deposits derived from sandstone

Slope: 0 to 20 percent

Aspect: East to west

Shape (down/across): Convex/convex

Drainage class: Excessively drained

Slowest permeability: 6.0 to 20 in./hr. (rapid)

Available water capacity: About 2.4 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 1 percent

Gypsum maximum: About 1 percent

Salinity maximum: About 1 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 1 (slightly sodic)

Land capability subclass (nonirrigated): 8e

47—Cascajo very gravelly sandy loam, 12 to 30 percent slopes

Map Unit Setting

Major Land Resource Area: 70

Elevation: 5,300 to 6,100 feet (1,615 to 1,859 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Cascajo and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Cascajo soils

Landscape: Uplands

Landform: Ridges, knolls, hills

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Fan alluvium derived from sandstone

Slope: 12 to 30 percent

Aspect: East to west

Shape (down/across): Linear/linear

Surface fragments: About 59 percent subrounded gravel

Depth class: Very deep

Drainage class: Excessively drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 2.2 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Gravelly

Potential native vegetation: blue grama, New Mexico Feathergrass, sideoats grama, twoneedle pinyon, black grama, oneseed juniper

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 2 inches; very gravelly sandy loam

Bw—2 to 5 inches; very gravelly sandy loam

Bk1—5 to 11 inches; very gravelly sandy loam

Bk2—11 to 23 inches; very gravelly loamy sand

C1—23 to 30 inches; very gravelly loamy sand

C2—30 to 60 inches; extremely cobbly loamy sand

Minor Components

La Fonda and similar soils

Composition: About 5 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

Harvey and similar soils

Composition: About 5 percent

Slope: 5 to 10 percent

Drainage class: Well drained

Ecological site: Limy

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

51—Sparham clay loam, 0 to 1 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,000 to 6,000 feet (1,524 to 1,829 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Sparham and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Sparham soils

Landscape: Valleys

Landform: Alluvial fans, valley sides, flood plains

Position on landform: Toeslopes

Position on landform: Rise

Parent material: Stream alluvium derived from sandstone and shale

Slope: 0 to 1 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Somewhat poorly drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 11.0 inches (high)

Shrink-swell potential: About 5.4 percent (moderate)

Flooding hazard: Occasional

Seasonal high water table depth: About 4 to 10 inches

Runoff class: High

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 16 mmhos/cm (moderately saline)

Sodium adsorption ratio maximum: About 30 (strongly sodic)

Ecological site: Clayey Bottomland

Potential native vegetation: giant sacaton, alkali sacaton, fourwing saltbush

Land capability subclass (irrigated): 3e

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 6 inches; clay loam

C1—6 to 20 inches; clay loam

C2—20 to 36 inches; clay

C3—36 to 60 inches; clay loam

Minor Components

Gilco and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Clayey Bottomland

Gilco, sandy substrata and similar soils

Composition: About 5 percent

Slope: 1 to 4 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Clayey Bottomland

Riverwash

Composition: About 5 percent
Landscape: Valleys
Landform: Streams, channels
Position on landform: Toeslopes
Position on landform: Base slope
Slope: 0 to 1 percent
Shape (down/across): Concave/linear
Drainage class: Somewhat poorly drained
Flooding hazard: Frequent

52—Totavi loamy sand, 0 to 5 percent slopes**Map Unit Setting**

Major Land Resource Area: 48A
Elevation: 7,000 to 7,500 feet (2,134 to 2,286 meters)
Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)
Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)
Frost-free period: 60 to 90 days

Map Unit Composition

Totavi and similar soils: 85 percent
 Minor components: 15 percent

Component Descriptions**Totavi soils**

Landscape: Valleys
Landform: Closed depressions, valley floors, stream terraces
Position on landform: Toeslopes
Position on landform: Base slope
Parent material: Stream alluvium derived from tuff
Slope: 0 to 5 percent
Aspect: East to west
Shape (down/across): Concave/linear
Depth class: Very deep
Drainage class: Somewhat excessively drained
Slowest permeability: 6.0 to 20 in./hr. (rapid)
Available water capacity: About 4.1 inches (low)
Shrink-swell potential: About 1.5 percent (low)
Flooding hazard: Rare
Runoff class: Very low
Calcium carbonate maximum: None
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Pinus ponderosa-Juniperus deppeana/Quercus gambelii
Potential native vegetation:
 Common trees: oneseed juniper, Utah juniper, ponderosa pine
 Other plants: needle and thread, western wheatgrass, Gambel oak, oneseed juniper, skunkbush sumac
Land capability subclass (nonirrigated): 4s

Typical Profile:

- A—0 to 15 inches; loamy sand
- C1—15 to 19 inches; loamy sand
- C2—19 to 60 inches; loamy sand

Minor Components

Riverwash

- Composition:* About 5 percent
- Landscape:* Valleys
- Landform:* Streams, channels
- Position on landform:* Toeslopes
- Position on landform:* Base slope
- Slope:* 0 to 3 percent
- Shape (down/across):* Concave/linear
- Drainage class:* Somewhat poorly drained
- Flooding hazard:* Frequent

Hackroy and similar soils

- Composition:* About 5 percent
- Slope:* 1 to 5 percent
- Depth to restrictive feature:* 8 to 20 inches to bedrock (lithic)
- Drainage class:* Well drained
- Ecological site:* pinyon-juniper forest

Nyjack and similar soils

- Composition:* About 5 percent
- Slope:* 1 to 5 percent
- Depth to restrictive feature:* 20 to 40 inches to bedrock (paralithic)
- Drainage class:* Well drained
- Ecological site:* pinyon-juniper forest

53—Witt-Harvey association, 1 to 7 percent slopes**Map Unit Setting**

- Major Land Resource Area:* 70
- Elevation:* 5,600 to 6,700 feet (1,707 to 2,042 meters)
- Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)
- Mean annual air temperature:* 52 to 54 degrees F. (11.1 to 12.2 degrees C.)
- Frost-free period:* 120 to 140 days

Map Unit Composition

- Witt and similar soils: 55 percent
- Harvey and similar soils: 30 percent
- Minor components: 15 percent

Component Descriptions**Witt soils**

- Landscape:* Uplands
- Landform:* Bajadas, fan remnants, mesas
- Position on landform:* Backslopes
- Position on landform:* Side slope
- Parent material:* Eolian deposits and alluvium derived from igneous and sedimentary rock

Slope: 1 to 7 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 11.7 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: About 15 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, galleta, sideoats grama, black grama, fourwing saltbush, obtuse panicgrass, plains lovegrass, sand dropseed, threeawn

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 3 inches; loam

BA—3 to 6 inches; silt loam

Bt1—6 to 11 inches; silty clay loam

Bt2—11 to 18 inches; silty clay loam

Btk—18 to 25 inches; silty clay loam

Bk1—25 to 39 inches; silt loam

Bk2—39 to 53 inches; silt loam

C—53 to 60 inches; silt loam

Harvey soils

Landscape: Uplands

Landform: Bajadas, plateaus, mesas

Position on landform: Shoulders

Position on landform: Nose slope

Parent material: Eolian deposits derived from sandstone over fan alluvium derived from basalt

Slope: 1 to 7 percent

Aspect: East to west

Shape (down/across): Convex/linear

Surface fragments: About 5 percent subrounded gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 9.5 inches (high)

Shrink-swell potential: About 3.6 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: About 20 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Limy

Potential native vegetation: black grama, sideoats grama, blue grama, needlegrass, winterfat, Bigelow sagebrush, fourwing saltbush, western wheatgrass

Land capability subclass (nonirrigated): 7e

Typical Profile:

- A—0 to 10 inches; loam
- Bw—10 to 28 inches; clay loam
- Bk—28 to 42 inches; sandy clay loam
- C—42 to 60 inches; sandy loam

Minor Components

Ildefonso and similar soils

- Composition:* About 10 percent
- Slope:* 10 to 35 percent
- Drainage class:* Well drained
- Ecological site:* Limy

La Fonda and similar soils

- Composition:* About 5 percent
- Slope:* 1 to 5 percent
- Drainage class:* Well drained
- Ecological site:* Loamy

54—Harvey-Cascajo association, 5 to 15 percent slopes**Map Unit Setting**

Major Land Resource Area: 70

Elevation: 5,300 to 6,500 feet (1,615 to 1,981 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Harvey and similar soils: 45 percent

Cascajo and similar soils: 40 percent

Minor components: 15 percent

Component Descriptions**Harvey soils**

Landscape: Uplands

Landform: Bajadas, mesas, plateaus

Position on landform: Shoulders

Position on landform: Nose slope

Parent material: Eolian deposits and alluvium derived from igneous and sedimentary rock

Slope: 5 to 15 percent

Aspect: East to west

Shape (down/across): Convex/linear

Surface fragments: About 10 percent subrounded gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 9.3 inches (high)

Shrink-swell potential: About 4.1 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: About 20 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Limy

Potential native vegetation: black grama, sideoats grama, blue grama, needlegrass, winterfat, Bigelow sagebrush, fourwing saltbush, western wheatgrass

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 2 inches; fine sandy loam

Bw—2 to 11 inches; fine sandy loam

Bk—11 to 23 inches; clay loam

C—23 to 60 inches; sandy clay loam

Cascajo soils

Landscape: Uplands

Landform: Hills, knolls, ridges

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Fan alluvium derived from sandstone

Slope: 5 to 15 percent

Aspect: East to west

Shape (down/across): Linear/linear

Surface fragments: About 10 percent subrounded gravel

Depth class: Very deep

Drainage class: Excessively drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 1.5 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 20 percent

Gypsum maximum: About 1 percent

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Gravelly

Potential native vegetation: New Mexico Feathergrass, black grama, blue grama, hairy grama, sideoats grama, plains lovegrass, winterfat, wolftail

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; very gravelly sandy loam

AB—3 to 9 inches; very gravelly sandy loam

Bk—9 to 28 inches; very gravelly sand

C—28 to 60 inches; very gravelly sand

Minor Components

La Fonda and similar soils

Composition: About 10 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

Witt and similar soils

Composition: About 5 percent

Slope: 1 to 8 percent

Drainage class: Well drained

Ecological site: Loamy

55—La Fonda loam, 1 to 5 percent slopes

Map Unit Setting

Major Land Resource Area: 70

Elevation: 6,000 to 6,500 feet (1,829 to 1,981 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

La Fonda and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

La Fonda soils

Landscape: Plains

Landform: Fan remnants, fan piedmonts

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Fan alluvium derived from igneous and sedimentary rock

Slope: 1 to 5 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 10.0 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: About 15 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, galleta, sideoats grama, black grama, fourwing saltbush, obtuse panicgrass, plains lovegrass, sand dropseed, threeawn

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 4 inches; loam

Bw—4 to 26 inches; loam

Bk—26 to 60 inches; loam

Minor Components

Harvey and similar soils

Composition: About 5 percent

Slope: 5 to 10 percent

Drainage class: Well drained

Ecological site: Limy

Witt and similar soils

Composition: About 5 percent

Slope: 1 to 8 percent

Drainage class: Well drained

Ecological site: Loamy

Ildefonso and similar soils

Composition: About 5 percent

Slope: 15 to 35 percent

Drainage class: Well drained

Ecological site: Breaks

56—Ildefonso cobbly loam, 15 to 35 percent slopes**Map Unit Setting**

Major Land Resource Area: 70

Elevation: 5,500 to 6,500 feet (1,676 to 1,981 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Ildefonso and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Ildefonso soils**

Landscape: Plains

Landform: Mesas, fan remnants, hills

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Eolian deposits over fan alluvium and colluvium derived from sandstone

Slope: 15 to 35 percent

Aspect: East to west

Shape (down/across): Linear/linear

Surface fragments: About 30 percent subangular gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 5.6 inches (low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate maximum: About 20 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Breaks

Potential native vegetation: black grama, blue grama, little bluestem, mountain muhly, sideoats grama, New Mexico Feathergrass, twoneedle pinyon, wolftail

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 3 inches; cobbly loam

Bw—3 to 9 inches; cobbly loam

Bk—9 to 15 inches; very gravelly loam

C—15 to 60 inches; very cobbly loam

Minor Components

La Fonda and similar soils

Composition: About 5 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

Harvey and similar soils

Composition: About 5 percent

Slope: 5 to 10 percent

Drainage class: Well drained

Ecological site: Limy

Rock outcrop

Composition: About 3 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

Witt and similar soils

Composition: About 2 percent

Slope: 1 to 8 percent

Drainage class: Well drained

Ecological site: Loamy

57—Badland

Map Unit Setting

Major Land Resource Area: 37

Map Unit Composition

Badland: 90 percent

Minor components: 10 percent

Component Descriptions

Badland

Description: Badland consists of areas of exposed raw shale that is essentially denuded of vegetation. These areas are highly dissected.

Landscape: Hills

Landform: Escarpments, ledges, rockfalls

Position on landform: Summits

Position on landform: Nose slope

Slope: 5 to 75 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth to restrictive feature: 0 inches to bedrock (paralithic)

Drainage class: Somewhat excessively drained

Runoff class: Very high

Land capability subclass (nonirrigated): 8

Minor Components

Eslendo and similar soils

Composition: About 5 percent

Slope: 5 to 30 percent

Depth to restrictive feature: 4 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Shallow

Doakum and similar soils

Composition: About 5 percent

Slope: 0 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

58—Deama-Elpedro association, 5 to 30 percent slopes

Map Unit Setting

Major Land Resource Area: 70

Elevation: 6,000 to 7,000 feet (1,829 to 2,134 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Deama and similar soils: 45 percent

Elpedro and similar soils: 35 percent

Minor components: 20 percent

Component Descriptions

Deama soils

Landscape: Hills

Landform: Mesas, ridges, plateaus

Position on landform: Shoulders

Position on landform: Nose slope

Parent material: Colluvium derived from limestone

Slope: 15 to 30 percent

Aspect: East to west

Shape (down/across): Convex/linear

Surface fragments: About 10 percent subrounded cobbles, about 10 percent subangular channers, about 20 percent subrounded stones

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 1.4 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Very high

Calcium carbonate maximum: About 60 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: black grama, Bigelow sagebrush, little bluestem, sideoats grama

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 7 inches; very stony silt loam

Bk—7 to 14 inches; very cobbly silt loam

2R—14 to 60 inches; bedrock

Elpedro soils

Landscape: Hills

Landform: Benches, mesas, fan piedmonts, valley sides

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Eolian deposits over colluvium derived from limestone

Slope: 5 to 12 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 11.2 inches (high)

Shrink-swell potential: About 3.7 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: About 15 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Potential native vegetation:

Common trees: juniper, twoneedle pinyon

Other plants: blue grama, galleta, bottlebrush squirreltail, oak, western wheatgrass

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 5 inches; loam

Bt1—5 to 12 inches; silty clay loam

Bt2—12 to 19 inches; silty clay loam

Bt3—19 to 25 inches; silty clay loam

Btk1—25 to 36 inches; silty clay loam

Btk2—36 to 45 inches; silt loam

Btk3—45 to 60 inches; loam

Minor Components

La Fonda and similar soils

Composition: About 10 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

Rock outcrop

Composition: About 10 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

59—Harvey-Ildefonso-La Fonda association, 3 to 15 percent slopes

Map Unit Setting

Major Land Resource Area: 70

Elevation: 6,200 to 6,800 feet (1,890 to 2,073 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Harvey and similar soils: 35 percent

Ildefonso and similar soils: 35 percent

La Fonda and similar soils: 15 percent

Minor components: 15 percent

Component Descriptions**Harvey soils**

Landscape: Uplands

Landform: Bajadas, mesas, plateaus

Position on landform: Shoulders

Position on landform: Side slope

Parent material: Eolian deposits derived from sandstone over fan alluvium and colluvium derived from igneous and sedimentary rock

Slope: 3 to 9 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 10.6 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: About 20 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Limy

Potential native vegetation: black grama, sideoats grama, blue grama, winterfat,

Bigelow sagebrush, fourwing saltbush, needlegrass, western wheatgrass

Land capability subclass (nonirrigated): 7e

Typical Profile:

- A—0 to 4 inches; loam
- Bw—4 to 10 inches; loam
- Bk1—10 to 18 inches; clay loam
- Bk2—18 to 41 inches; clay loam
- C—41 to 60 inches; sandy clay loam

Ildefonso soils*Landscape:* Uplands*Landform:* Fan remnants, mesas, hills*Position on landform:* Shoulders*Position on landform:* Side slope*Parent material:* Fan alluvium and/or colluvium derived from igneous and sedimentary rock*Slope:* 7 to 15 percent*Aspect:* East to west*Shape (down/across):* Linear/linear*Surface fragments:* About 5 percent subrounded gravel, about 10 percent subrounded cobbles*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* 0.6 to 2.0 in./hr. (moderate)*Available water capacity:* About 3.0 inches (low)*Shrink-swell potential:* About 2.0 percent (low)*Runoff class:* Medium*Calcium carbonate maximum:* About 20 percent*Gypsum maximum:* None*Salinity maximum:* About 4 mmhos/cm (very slightly saline)*Sodium adsorption ratio maximum:* About 0 (nonsodic)*Ecological site:* Breaks*Potential native vegetation:* black grama, blue grama, little bluestem, mountain muhly, sideoats grama, New Mexico Feathergrass, twoneedle pinyon, wolftail*Land capability subclass (nonirrigated):* 7s*Typical Profile:*

- A—0 to 2 inches; cobbly loam
- Bw1—2 to 8 inches; very gravelly loam
- Bw2—8 to 13 inches; very gravelly loam
- Bk1—13 to 32 inches; very cobbly sandy loam
- Bk2—32 to 40 inches; very cobbly sandy loam
- C—40 to 60 inches; extremely cobbly sand

La Fonda soils*Landscape:* Uplands*Landform:* Fan remnants, fan piedmonts*Position on landform:* Footslopes*Position on landform:* Side slope*Parent material:* Fan alluvium derived from igneous and sedimentary rock*Slope:* 3 to 7 percent*Aspect:* East to west*Shape (down/across):* Concave/linear*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 10.3 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: About 15 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, galleta, sideoats grama, black grama, fourwing saltbush, obtuse panicgrass, plains lovegrass, sand dropseed, threeawn

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 3 inches; loam

Bw1—3 to 7 inches; loam

Bw2—7 to 14 inches; clay loam

Bw3—14 to 26 inches; loam

Bk1—26 to 42 inches; loam

Bk2—42 to 60 inches; loam

Minor Components

Ildefonso and similar soils

Composition: About 10 percent

Slope: 15 to 35 percent

Drainage class: Well drained

Ecological site: Breaks

Witt and similar soils

Composition: About 5 percent

Slope: 1 to 8 percent

Drainage class: Well drained

Ecological site: Loamy

63—Placitas gravelly loam, 8 to 40 percent slopes

Map Unit Setting

Major Land Resource Area: 70

Elevation: 5,700 to 6,300 feet (1,737 to 1,920 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Placitas and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Placitas soils

Landscape: Uplands

Landform: Fan remnants

Position on landform: Toeslopes

Position on landform: Tread

Parent material: Fan alluvium derived from conglomerate

Slope: 8 to 40 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Moderately deep

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 1.8 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: High

Calcium carbonate maximum: About 25 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Gravelly

Potential native vegetation: blue grama, New Mexico Feathergrass, sideoats grama, twoneedle pinyon, black grama, oneseed juniper

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 5 inches; gravelly loam

Bw—5 to 10 inches; very gravelly sandy loam

Bk—10 to 27 inches; very gravelly sandy loam

R—27 to 60 inches; bedrock

Minor Components

Skyvillage and similar soils

Composition: About 8 percent

Slope: 5 to 40 percent

Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Shallow Sandstone

Zia and similar soils

Composition: About 7 percent

Slope: 5 to 20 percent

Drainage class: Well drained

Ecological site: Sandy

64—Skyvillage-Ildefonso association, 8 to 40 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,800 to 6,400 feet (1,768 to 1,951 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Skyvillage and similar soils: 40 percent

Ildefonso and similar soils: 35 percent

Minor components: 25 percent

Component Descriptions

Skyvillage soils

Landscape: Uplands

Landform: Ridges, structural benches, mesas, hills, breaks, cuestras

Position on landform: Shoulders

Position on landform: Head slope, side slope, nose slope

Parent material: Slope alluvium derived from sandstone

Slope: 8 to 25 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 2.4 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very high

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Shallow Sandstone

Potential native vegetation: sideoats grama, blue grama, little bluestem, Indian ricegrass, galleta

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 4 inches; fine sandy loam

C1—4 to 11 inches; fine sandy loam

C2—11 to 18 inches; sandy loam

2R—18 to 60 inches; bedrock

Ildefonso soils

Landscape: Uplands

Landform: Fan remnants, mesas

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Fan alluvium and/or colluvium derived from igneous and sedimentary rock

Slope: 8 to 40 percent

Aspect: East to west

Shape (down/across): Linear/linear

Surface fragments: About 2 percent subrounded stones, about 8 percent subrounded cobbles, about 32 percent subrounded gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 3.6 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate maximum: About 20 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Breaks

Potential native vegetation: black grama, blue grama, little bluestem, mountain muhly, plains lovegrass, sideoats grama, New Mexico Feathergrass

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 3 inches; gravelly sandy loam

Bw—3 to 14 inches; very gravelly sandy loam

Bk—14 to 60 inches; very gravelly sandy loam

Minor Components

Riverwash

Composition: About 10 percent

Landscape: Valleys

Landform: Streams, channels

Position on landform: Toeslopes

Position on landform: Base slope

Slope: 0 to 3 percent

Shape (down/across): Concave/linear

Drainage class: Somewhat poorly drained

Flooding hazard: Frequent

Deama and similar soils

Composition: About 10 percent

Slope: 15 to 30 percent

Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: pinyon-juniper forest

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

65—Ildefonso-Harvey association, 10 to 35 percent slopes

Map Unit Setting

Major Land Resource Area: 70

Elevation: 5,000 to 5,700 feet (1,524 to 1,737 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Ildefonso and similar soils: 50 percent

Harvey and similar soils: 30 percent

Minor components: 20 percent

Component Descriptions

Ildefonso soils

Landscape: Hills

Landform: Mesas, fan remnants

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Fan alluvium over colluvium derived from igneous and sedimentary rock

Slope: 10 to 35 percent

Aspect: East to west

Shape (down/across): Linear/linear

Surface fragments: About 2 percent subrounded stones, about 13 percent subrounded cobbles, about 43 percent subrounded gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 3.5 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate maximum: About 20 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Breaks

Potential native vegetation: black grama, blue grama, little bluestem, mountain muhly, plains lovegrass, sideoats grama, New Mexico Feathergrass

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 6 inches; very gravelly sandy loam

Bw—6 to 38 inches; very gravelly sandy loam

Bk—38 to 60 inches; very gravelly sandy loam

Harvey soils

Landscape: Uplands

Landform: Bajadas, mesas, plateaus

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Eolian deposits over slope alluvium derived from igneous and sedimentary rock

Slope: 10 to 15 percent

Aspect: East to west

Shape (down/across): Convex/linear

Surface fragments: About 5 percent subrounded gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 8.9 inches (moderate)

Shrink-swell potential: About 3.2 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: About 20 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Limy

Potential native vegetation: black grama, sideoats grama, blue grama, needlegrass, winterfat, Bigelow sagebrush, fourwing saltbush, western wheatgrass

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 4 inches; loam

Bk1—4 to 23 inches; loam

Bk2—23 to 36 inches; loam

C—36 to 60 inches; sandy loam

Minor Components

La Fonda and similar soils

Composition: About 10 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

Riverwash

Composition: About 5 percent

Landscape: Valleys

Landform: Channels, streams

Position on landform: Toeslopes

Position on landform: Base slope

Slope: 0 to 3 percent

Shape (down/across): Concave/linear

Drainage class: Somewhat poorly drained

Flooding hazard: Frequent

Placitas and similar soils

Composition: About 5 percent

Slope: 8 to 40 percent

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Gravelly

66—Zia sandy loam, 3 to 6 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,100 to 5,700 feet (1,554 to 1,737 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Zia and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Zia soils

Landscape: Valleys

Landform: Alluvial fans

Position on landform: Toeslopes

Position on landform: Rise

Parent material: Eolian deposits over fan alluvium derived from sandstone

Slope: 3 to 6 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Somewhat excessively drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 7.1 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 15 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Sandy

Potential native vegetation: blue grama, western wheatgrass, Indian ricegrass, black grama, oneseed juniper

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 4 inches; sandy loam

C—4 to 60 inches; sandy loam

Minor Components

Riverwash

Composition: About 5 percent

Landscape: Valleys

Landform: Channels, streams

Position on landform: Toeslopes

Position on landform: Base slope

Slope: 0 to 3 percent

Shape (down/across): Concave/linear

Drainage class: Somewhat poorly drained

Flooding hazard: Frequent

San Mateo and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Swale

Cascajo and similar soils

Composition: About 5 percent

Slope: 12 to 30 percent

Drainage class: Excessively drained

Ecological site: Hills

67—Sandoval-Poley complex, 3 to 30 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,000 to 7,000 feet (1,829 to 2,134 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Sandoval and similar soils: 40 percent

Poley and similar soils: 35 percent

Minor components: 25 percent

Component Descriptions

Sandoval soils

Landscape: Hills

Landform: Ridges

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Slope alluvium derived from shale

Slope: 3 to 30 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 2.1 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Very high

Calcium carbonate maximum: About 10 percent

Gypsum maximum: About 10 percent

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Shallow

Potential native vegetation: sideoats grama, New Mexico Feathergrass, cane bluestem, little bluestem, galleta

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 2 inches; loam

C—2 to 11 inches; clay loam

Cr—11 to 60 inches; bedrock

Poley soils

Landscape: Hills

Landform: Fan remnants

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Colluvium derived from sandstone and shale

Slope: 3 to 30 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 8.8 inches (moderate)

Shrink-swell potential: About 3.5 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: About 10 percent

Gypsum maximum: About 1 percent

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Foothills

Potential native vegetation: blue grama, black grama, sideoats grama, oneseed juniper, New Mexico Feathergrass, sacahuista

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 3 inches; very cobbly loam

Bt1—3 to 12 inches; clay loam

Bt2—12 to 17 inches; clay loam

Btk—17 to 21 inches; clay loam

Bk1—21 to 40 inches; clay loam

Bk2—40 to 60 inches; very gravelly sandy loam

Minor Components

Camino and similar soils

Composition: About 10 percent

Slope: 1 to 6 percent

Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Clayey

Skyvillage and similar soils

Composition: About 5 percent

Slope: 8 to 25 percent

Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Shallow Sandstone

Montecito and similar soils

Composition: About 5 percent

Slope: 3 to 30 percent

Drainage class: Well drained

Ecological site: pinyon-juniper forest

San Mateo and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Swale

68—Penistaja-Querencia complex, 2 to 7 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,700 to 6,400 feet (1,737 to 1,951 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Penistaja and similar soils: 45 percent

Querencia and similar soils: 35 percent

Minor components: 20 percent

Component Descriptions

Penistaja soils

Landscape: Uplands

Landform: Mesas, alluvial fans, bajadas, plateaus, cuestras, hills

Position on landform: Footslopes

Position on landform: Head slope, side slope, nose slope, rise

Parent material: Eolian deposits over slope alluvium derived from sandstone and shale

Slope: 2 to 7 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 9.3 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: sand dropseed, spike muhly, winterfat, galleta, sand bluestem, black grama, blue grama

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 2 inches; loamy fine sand

Bt—2 to 15 inches; sandy clay loam

Btk—15 to 27 inches; sandy clay loam

Bk—27 to 38 inches; clay loam

C—38 to 60 inches; sandy clay loam

Querencia soils

Landscape: Uplands

Landform: Stream terraces, valley sides, alluvial fans

Position on landform: Footslopes

Position on landform: Rise

Parent material: Fan alluvium over colluvium derived from sandstone and shale

Slope: 2 to 7 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 8.6 inches (moderate)

Shrink-swell potential: About 3.5 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, spike muhly, bottlebrush squirreltail, fourwing saltbush, needlegrass, winterfat

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 2 inches; fine sandy loam

Bw—2 to 40 inches; sandy clay loam

Bk—40 to 60 inches; fine sandy loam

Minor Components

Camino and similar soils

Composition: About 10 percent

Slope: 1 to 6 percent

Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Clayey

San Mateo and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Swale

Sandoval and similar soils

Composition: About 5 percent

Slope: 3 to 30 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Shallow

71—Palon cobbly sandy loam, 15 to 35 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 8,500 to 9,500 feet (2,591 to 2,896 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Palon and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Palon soils

Landscape: Mountains

Landform: Mountain slopes

Position on landform: Backslopes

Position on landform: Mountainflank

Parent material: Slope alluvium over colluvium derived from rhyolite

Slope: 15 to 35 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 2.8 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Potential native vegetation:

Common trees: white fir, ponderosa pine, Douglas-fir

Other plants: prairie junegrass, quaking aspen, silverweed cinquefoil, Arizona fescue, mountain muhly, nodding brome

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 6 inches; cobbly sandy loam

E—6 to 27 inches; very cobbly sandy loam

Bt—27 to 60 inches; extremely cobbly sandy loam

Minor Components

Jarmillo and similar soils

Composition: About 8 percent

Slope: 2 to 20 percent

Drainage class: Well drained

Ecological site: Mountain Loam

Rock outcrop

Composition: About 7 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

72—Palon very cobbly sandy loam, 35 to 65 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 8,600 to 9,300 feet (2,621 to 2,835 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Palon and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Palon soils

Landscape: Mountains

Landform: Mountain slopes

Position on landform: Backslopes

Position on landform: Mountainflank

Parent material: Slope alluvium over colluvium derived from rhyolite

Slope: 35 to 65 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 3.2 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Potential native vegetation:

Common trees: white fir, ponderosa pine, Douglas-fir

Other plants: prairie junegrass, quaking aspen, silverweed cinquefoil, Arizona fescue, mountain muhly, nodding brome

Land capability subclass (nonirrigated): 7c

Typical Profile:

Oi—0 to 2 inches; slightly decomposed plant material

A1—2 to 4 inches; very cobbly sandy loam

A2—4 to 10 inches; extremely cobbly sandy loam

E—10 to 32 inches; extremely cobbly sandy loam

Bt1—32 to 53 inches; very cobbly sandy loam

Bt2—53 to 60 inches; very cobbly sandy loam

Minor Components

Palon, bouldery and similar soils

Composition: About 5 percent

Slope: 15 to 35 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Rubble land

Composition: About 5 percent

Slope: 35 to 60 percent

Drainage class: Excessively drained

Rock outcrop*Composition:* About 5 percent*Depth to restrictive feature:* 0 inches to bedrock (lithic)**74—Origo-Pavo association, 5 to 35 percent slopes****Map Unit Setting***Major Land Resource Area:* 48A*Elevation:* 8,600 to 10,000 feet (2,621 to 3,048 meters)*Mean annual precipitation:* 25 to 30 inches (635 to 762 millimeters)*Mean annual air temperature:* 38 to 42 degrees F. (3.3 to 5.6 degrees C.)*Frost-free period:* 45 to 60 days**Map Unit Composition**

Origo and similar soils: 50 percent

Pavo and similar soils: 25 percent

Minor components: 25 percent

Component Descriptions**Origo soils***Landscape:* Mountains*Landform:* Mountain slopes*Position on landform:* Backslopes*Position on landform:* Mountainflank*Parent material:* Slope alluvium over colluvium derived from rhyolite*Slope:* 15 to 35 percent*Aspect:* East to west*Shape (down/across):* Linear/linear*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* 2.0 to 6.0 in./hr. (moderately rapid)*Available water capacity:* About 2.0 inches (very low)*Shrink-swell potential:* About 1.5 percent (low)*Runoff class:* Medium*Calcium carbonate maximum:* None*Gypsum maximum:* None*Salinity maximum:* About 2 mmhos/cm (nonsaline)*Sodium adsorption ratio maximum:* About 0 (nonsodic)*Ecological site:* Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia*Potential native vegetation:*

Common trees: white fir, Douglas-fir, limber pine, quaking aspen

Other plants: common juniper, nodding brome, prairie junegrass, unknown, ponderosa pine

Land capability subclass (nonirrigated): 7s**Typical Profile:**

A—0 to 7 inches; very cobbly sandy loam

E—7 to 28 inches; extremely cobbly sandy loam

Bt—28 to 60 inches; extremely cobbly sandy loam

Pavo soils

Landscape: Mountains

Landform: Mountain slopes

Position on landform: Backslopes

Position on landform: Mountainflank

Parent material: Colluvium derived from tuff

Slope: 5 to 20 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 7.6 inches (moderate)

Shrink-swell potential: About 1.8 percent (low)

Runoff class: Low

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Mountain Loam

Potential native vegetation: Arizona fescue, bluegrass, western wheatgrass, muhly, needlegrass, bottlebrush squirreltail

Land capability subclass (nonirrigated): 7c

Typical Profile:

A1—0 to 9 inches; loam

A2—9 to 12 inches; sandy loam

E—12 to 25 inches; sandy loam

E/Bt1—25 to 35 inches; sandy loam

E/Bt2—35 to 45 inches; fine sandy loam

2Bt1—45 to 50 inches; gravelly clay loam

3Bt2—50 to 60 inches; sandy loam

Minor Components

Cajete and similar soils

Composition: About 10 percent

Slope: 0 to 8 percent

Drainage class: Well drained

Ecological site: Mountain Grassland

Rock outcrop

Composition: About 10 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

Rubble land

Composition: About 5 percent

Slope: 35 to 60 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

Drainage class: Excessively drained

75—Origo very cobbly sandy loam, 35 to 65 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 8,600 to 10,000 feet (2,621 to 3,048 meters)

Mean annual precipitation: 25 to 30 inches (635 to 762 millimeters)

Mean annual air temperature: 38 to 42 degrees F. (3.3 to 5.6 degrees C.)

Frost-free period: 45 to 60 days

Map Unit Composition

Origo and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Origo soils

Landscape: Mountains

Landform: Mountain slopes

Position on landform: Backslopes

Position on landform: Mountainflank

Parent material: Slope alluvium over colluvium derived from rhyolite

Slope: 35 to 65 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 3.8 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Potential native vegetation:

Common trees: Engelmann spruce, white fir, Douglas-fir

Other plants: common juniper, nodding brome, prairie junegrass, limber pine, ponderosa pine, quaking aspen

Land capability subclass (nonirrigated): 7e

Typical Profile:

Oi—0 to 1 inch; slightly decomposed plant material

A1—1 inch to 6 inches; very cobbly sandy loam

A2—6 to 12 inches; very cobbly sandy loam

E—12 to 32 inches; very cobbly sandy loam

Bt1—32 to 56 inches; very cobbly sandy loam

Bt2—56 to 60 inches; very cobbly loamy sand

Minor Components

Pavo and similar soils

Composition: About 5 percent

Slope: 5 to 20 percent

Drainage class: Well drained

Ecological site: Mountain Loam

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

Rubble land

Composition: About 5 percent

Slope: 35 to 60 percent

Drainage class: Excessively drained

82—Calaveras loam, 15 to 35 percent slopes**Map Unit Setting**

Major Land Resource Area: 48A

Elevation: 8,500 to 9,000 feet (2,591 to 2,743 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Calaveras and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Calaveras soils**

Landscape: Mountains

Landform: Mountain slopes

Position on landform: Backslopes

Position on landform: Mountainflank

Parent material: Colluvium derived from tuff

Slope: 15 to 35 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 3.4 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: High

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Potential native vegetation:

Common trees: white fir, limber pine, Douglas-fir, ponderosa pine

Other plants: common juniper, nodding brome, prairie junegrass, quaking aspen

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 2 inches; loam

AE—2 to 6 inches; sandy loam

2Bt—6 to 40 inches; very cobbly sandy loam

3Bt—40 to 60 inches; extremely cobbly coarse sandy loam

Minor Components

Redondo and similar soils

Composition: About 5 percent

Slope: 35 to 80 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Cajete and similar soils

Composition: About 5 percent

Slope: 0 to 8 percent

Drainage class: Well drained

Ecological site: Mountain Grassland

Cosey and similar soils

Composition: About 5 percent

Slope: 2 to 20 percent

Drainage class: Well drained

Ecological site: Mountain Loam

83—Calaveras-Rubble land association, 35 to 60 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 8,500 to 9,000 feet (2,591 to 2,743 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Calaveras and similar soils: 60 percent

Rubble land: 20 percent

Minor components: 20 percent

Component Descriptions

Calaveras soils

Landscape: Mountains

Landform: Mountain slopes

Position on landform: Backslopes

Position on landform: Mountainflank

Parent material: Colluvium derived from tuff

Slope: 35 to 60 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 3.5 inches (low)

Shrink-swell potential: About 1.6 percent (low)

Runoff class: High

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Potential native vegetation:

Common trees: white fir, limber pine, Douglas-fir, ponderosa pine

Other plants: common juniper, nodding brome, prairie junegrass, quaking aspen

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 6 inches; loam

AE—6 to 12 inches; sandy loam

2Bt—12 to 24 inches; very cobbly sandy loam

3Bt—24 to 60 inches; extremely cobbly coarse sandy loam

Rubble land

Description: Rubble land consists of areas with 90 percent or more of the surface covered with cobbles, stones, and boulders.

Landscape: Mountains

Landform: Ledges, escarpments

Position on landform: Shoulders

Position on landform: Mountainflank

Slope: 35 to 60 percent

Aspect: East to west

Shape (down/across): Linear/linear

Drainage class: Excessively drained

Available water capacity: About 0.6 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 0 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Land capability subclass (nonirrigated): 8s

Minor Components

Redondo and similar soils

Composition: About 10 percent

Slope: 15 to 35 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Rock outcrop*Composition:* About 10 percent*Depth to restrictive feature:* 0 inches to bedrock (lithic)**85—Redondo coarse sandy loam, 15 to 35 percent slopes****Map Unit Setting***Major Land Resource Area:* 48A*Elevation:* 8,700 to 10,000 feet (2,652 to 3,048 meters)*Mean annual precipitation:* 25 to 30 inches (635 to 762 millimeters)*Mean annual air temperature:* 38 to 42 degrees F. (3.3 to 5.6 degrees C.)*Frost-free period:* 45 to 60 days**Map Unit Composition**

Redondo and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Redondo soils***Landscape:* Mountains*Landform:* Mountain slopes*Position on landform:* Backslopes*Position on landform:* Mountainflank*Parent material:* Colluvium derived from tuff*Slope:* 15 to 35 percent*Aspect:* East to west*Shape (down/across):* Linear/linear*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* 2.0 to 6.0 in./hr. (moderately rapid)*Available water capacity:* About 4.2 inches (low)*Shrink-swell potential:* About 1.5 percent (low)*Runoff class:* Medium*Calcium carbonate maximum:* None*Gypsum maximum:* None*Salinity maximum:* About 2 mmhos/cm (nonsaline)*Sodium adsorption ratio maximum:* About 0 (nonsodic)*Ecological site:* Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia*Potential native vegetation:*

Common trees: Engelmann spruce

Other plants: Arizona fescue, corkbark fir, sedge, Fendler meadowrue, common juniper, kinnikinnick, prairie junegrass, silverweed cinquefoil

Land capability subclass (nonirrigated): 7c**Typical Profile:**

A—0 to 2 inches; coarse sandy loam

E1—2 to 7 inches; coarse sandy loam

E2—7 to 15 inches; coarse sandy loam

BE—15 to 22 inches; coarse sandy loam

Bt1—22 to 29 inches; gravelly coarse sandy loam

Bt2—29 to 38 inches; very gravelly coarse sandy loam

Bt3—38 to 54 inches; extremely gravelly coarse sandy loam

Bt4—54 to 60 inches; extremely cobbly coarse sandy loam

Minor Components

Ess and similar soils

Composition: About 10 percent*Slope:* 5 to 45 percent*Drainage class:* Well drained*Ecological site:* Subalpine Grassland

Rubble land

Composition: About 5 percent*Slope:* 35 to 80 percent*Drainage class:* Excessively drained**86—Redondo cobbly coarse sandy loam, 35 to 80 percent slopes****Map Unit Setting***Major Land Resource Area:* 48A*Elevation:* 8,700 to 11,000 feet (2,652 to 3,353 meters)*Mean annual precipitation:* 25 to 30 inches (635 to 762 millimeters)*Mean annual air temperature:* 38 to 42 degrees F. (3.3 to 5.6 degrees C.)*Frost-free period:* 45 to 60 days**Map Unit Composition**

Redondo and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Redondo soils***Landscape:* Mountains*Landform:* Mountain slopes*Position on landform:* Backslopes*Position on landform:* Mountainflank*Parent material:* Colluvium derived from tuff*Slope:* 35 to 80 percent*Aspect:* East to west*Shape (down/across):* Linear/linear*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* 2.0 to 6.0 in./hr. (moderately rapid)*Available water capacity:* About 2.4 inches (very low)*Shrink-swell potential:* About 1.5 percent (low)*Runoff class:* Medium*Calcium carbonate maximum:* None*Gypsum maximum:* None*Salinity maximum:* About 2 mmhos/cm (nonsaline)*Sodium adsorption ratio maximum:* About 0 (nonsodic)*Ecological site:* Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia*Potential native vegetation:*

Common trees: Engelmann spruce

Other plants: Arizona fescue, Fendler meadowrue, Rocky Mountain maple, corkbark fir, kinnikinnick, limber pine, quaking aspen

Land capability subclass (nonirrigated): 7c

Typical Profile:

- A—0 to 8 inches; cobbly coarse sandy loam
- E—8 to 13 inches; very cobbly coarse sandy loam
- BE—13 to 34 inches; extremely cobbly coarse sandy loam
- Bt—34 to 60 inches; extremely cobbly coarse sandy loam

Minor Components

Ess and similar soils

- Composition:* About 8 percent
- Slope:* 5 to 45 percent
- Drainage class:* Well drained
- Ecological site:* Subalpine Grassland

Rubble land

- Composition:* About 7 percent
- Slope:* 35 to 80 percent
- Drainage class:* Excessively drained

87—Redondo-Rubble land association, 35 to 80 percent slopes

Map Unit Setting

- Major Land Resource Area:* 48A
- Elevation:* 9,000 to 10,500 feet (2,743 to 3,200 meters)
- Mean annual precipitation:* 25 to 30 inches (635 to 762 millimeters)
- Mean annual air temperature:* 38 to 42 degrees F. (3.3 to 5.6 degrees C.)
- Frost-free period:* 45 to 60 days

Map Unit Composition

- Redondo and similar soils: 50 percent
- Rubble land: 25 percent
- Minor components: 25 percent

Component Descriptions**Redondo soils**

- Landscape:* Mountains
- Landform:* Mountain slopes
- Position on landform:* Backslopes
- Position on landform:* Mountainflank
- Parent material:* Colluvium derived from tuff
- Slope:* 35 to 80 percent
 - Aspect:* East to west
 - Shape (down/across):* Linear/linear
- Depth class:* Very deep
- Drainage class:* Well drained
- Slowest permeability:* 2.0 to 6.0 in./hr. (moderately rapid)
- Available water capacity:* About 3.4 inches (low)
- Shrink-swell potential:* About 1.5 percent (low)
- Runoff class:* Medium
- Calcium carbonate maximum:* None
- Gypsum maximum:* None
- Salinity maximum:* About 2 mmhos/cm (nonsaline)
- Sodium adsorption ratio maximum:* About 0 (nonsodic)

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Potential native vegetation:

Common trees: Engelmann spruce

Other plants: Arizona fescue, Fendler meadowrue, Rocky Mountain maple, corkbark fir, kinnikinnick, limber pine, quaking aspen

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 6 inches; cobbly loam

E—6 to 13 inches; very cobbly coarse sandy loam

Bt—13 to 60 inches; very cobbly coarse sandy loam

Rubble land

Description: Rubble land consists of areas with 90 percent or more of the surface covered with cobbles, stones, and boulders.

Landscape: Mountains

Landform: Talus slopes

Position on landform: Backslopes

Position on landform: Mountainflank, upper third

Slope: 35 to 80 percent

Aspect: East to west

Shape (down/across): Concave/linear

Drainage class: Excessively drained

Available water capacity: About 0.6 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 0 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Land capability subclass (nonirrigated): 8s

Minor Components

Ess and similar soils

Composition: About 25 percent

Landform: Mountains

Slope: 5 to 45 percent

Drainage class: Well drained

Ecological site: Subalpine Grassland

88—Totavi-Jemez-Rock outcrop association, 0 to 15 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 7,800 to 8,800 feet (2,377 to 2,682 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Totavi and similar soils: 45 percent
 Jemez and similar soils: 30 percent
 Rock outcrop: 15 percent
 Minor components: 10 percent

Component Descriptions

Totavi soils

Landscape: Plains
Landform: Stream terraces, valley floors, closed depressions
Position on landform: Toeslopes
Position on landform: Base slope
Parent material: Fan alluvium derived from tuff
Slope: 0 to 5 percent
 Aspect: East to west
 Shape (down/across): Concave/concave
Depth class: Very deep
Drainage class: Somewhat excessively drained
Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)
Available water capacity: About 4.7 inches (low)
Shrink-swell potential: About 1.5 percent (low)
Flooding hazard: Rare
Runoff class: Very low
Calcium carbonate maximum: About 5 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Pinus ponderosa-Juniperus deppeana/Quercus gambelii
Potential native vegetation:
 Common trees: oneseed juniper, ponderosa pine
 Other plants: needle and thread, skunkbush sumac, western wheatgrass, Gambel oak
Land capability subclass (nonirrigated): 6s

Typical Profile:
 A—0 to 12 inches; sandy loam
 C—12 to 60 inches; loamy sand

Jemez soils

Landscape: Hills
Landform: Plateaus
Position on landform: Shoulders
Position on landform: Nose slope
Parent material: Slope alluvium derived from tuff
Slope: 5 to 15 percent
 Aspect: East to west
 Shape (down/across): Convex/linear
Depth class: Moderately deep
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)
Available water capacity: About 4.6 inches (low)
Shrink-swell potential: About 4.5 percent (moderate)
Runoff class: High

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Potential native vegetation:

Common trees: white fir, ponderosa pine, Douglas-fir

Other plants: needle and thread, skunkbush sumac, western wheatgrass, Gambel oak

Land capability subclass (nonirrigated): 7c

Typical Profile:

A1—0 to 6 inches; loam

A2—6 to 13 inches; loam

BA—13 to 19 inches; clay loam

Bt—19 to 27 inches; sandy clay loam

R—27 to 60 inches; bedrock

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landscape: Hills

Landform: Breaks, escarpments

Position on landform: Summits

Position on landform: Nose slope

Aspect: East to west

Shape (down/across): Convex/linear

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Minor Components

Cajete and similar soils

Composition: About 10 percent

Slope: 8 to 30 percent

Drainage class: Well drained

Ecological site: Mountain Grassland

91—Zia sandy loam, 1 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,500 to 5,700 feet (1,676 to 1,737 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Zia and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Zia soils

Landscape: Valleys

Landform: Stream terraces

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Eolian deposits over stream alluvium derived from sandstone

Slope: 1 to 3 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 7.3 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very low

Calcium carbonate maximum: About 15 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Sandy

Potential native vegetation: blue grama, western wheatgrass, Indian ricegrass, black grama, oneseed juniper

Land capability subclass (irrigated): 2e

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 16 inches; sandy loam

C1—16 to 22 inches; loamy sand

C2—22 to 35 inches; sandy loam

C3—35 to 60 inches; fine sandy loam

Minor Components

El Rancho and similar soils

Composition: About 10 percent

Slope: 0 to 2 percent

Drainage class: Well drained

Ecological site: Loamy

Galisteo and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Well drained

Ecological site: Salt Flats

92—Galisteo silty clay loam, moderately saline, sodic, 0 to 1 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,500 to 5,700 feet (1,676 to 1,737 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Galisteo, moderately saline, sodic and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Galisteo, moderately saline, sodic soils

Landscape: Valleys

Landform: Stream terraces, alluvial fans

Position on landform: Toeslopes

Position on landform: Rise

Parent material: Stream alluvium derived from sandstone and shale

Slope: 0 to 1 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 9.4 inches (high)

Shrink-swell potential: About 7.1 percent (high)

Runoff class: Medium

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 16 mmhos/cm (moderately saline)

Sodium adsorption ratio maximum: About 30 (strongly sodic)

Ecological site: Salty Bottomland

Potential native vegetation: alkali sacaton, western wheatgrass, bottlebrush
squirreltail, galleta, fourwing saltbush, greasewood

Land capability subclass (irrigated): 4s

Land capability subclass (nonirrigated): 6c

Typical Profile:

Ap—0 to 12 inches; silty clay loam

C—12 to 60 inches; clay

Minor Components

El Rancho and similar soils

Composition: About 10 percent

Slope: 0 to 2 percent

Drainage class: Well drained

Ecological site: Loamy

Zia and similar soils

Composition: About 5 percent

Slope: 5 to 20 percent

Drainage class: Well drained

Ecological site: Sandy

93—Zia loamy sand, 1 to 4 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,100 to 5,500 feet (1,554 to 1,676 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Zia and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Zia soils

Landscape: Valleys

Landform: Stream terraces

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Eolian deposits over stream alluvium derived from sandstone

Slope: 1 to 4 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Somewhat excessively drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 6.7 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very low

Calcium carbonate maximum: About 15 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Sandy

Potential native vegetation: blue grama, western wheatgrass, Indian ricegrass, black grama, oneseed juniper

Land capability subclass (irrigated): 2e

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 8 inches; loamy sand

C—8 to 60 inches; sandy loam

Minor Components

Gilco and similar soils

Composition: About 10 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Pinavetes and similar soils

Composition: About 5 percent

Slope: 5 to 15 percent

Drainage class: Excessively drained

Ecological site: Deep Sand

95—El Rancho loam, 0 to 2 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,300 to 5,500 feet (1,615 to 1,676 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

El Rancho and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

El Rancho soils

Landscape: Valleys

Landform: Stream terraces

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from sandstone and shale

Slope: 0 to 2 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 8.3 inches (moderate)

Shrink-swell potential: About 3.4 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, spike muhly, western wheatgrass, bottlebrush
squirreltail, fourwing saltbush, winterfat

Land capability subclass (irrigated): 2e

Land capability subclass (nonirrigated): 6c

Typical Profile:

Ap—0 to 5 inches; loam

C1—5 to 20 inches; sandy clay loam

C2—20 to 38 inches; sandy clay loam

2C3—38 to 60 inches; sandy loam

Minor Components

Galisteo and similar soils

Composition: About 10 percent

Slope: 0 to 1 percent

Drainage class: Well drained

Ecological site: Salt Flats

Zia and similar soils

Composition: About 5 percent

Slope: 1 to 4 percent

Drainage class: Well drained

Ecological site: Sandy

97—El Rancho clay loam, 0 to 2 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 5,300 to 5,500 feet (1,615 to 1,676 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

El Rancho and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**El Rancho soils**

Landscape: Valleys

Landform: Stream terraces

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from sandstone and shale

Slope: 0 to 2 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 9.3 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, spike muhly, western wheatgrass, bottlebrush
squirreltail, fourwing saltbush, winterfat

Land capability subclass (irrigated): 2e

Land capability subclass (nonirrigated): 6c

Typical Profile:

Ap—0 to 8 inches; clay loam
 C—8 to 60 inches; sandy clay loam

Minor Components

Jocity and similar soils

Composition: About 8 percent
Slope: 0 to 2 percent
Drainage class: Moderately well drained
Flooding hazard: Rare
Ecological site: Bottomland

Zia and similar soils

Composition: About 7 percent
Slope: 1 to 4 percent
Drainage class: Well drained
Ecological site: Sandy

100—Orejas-Rock outcrop complex, 15 to 40 percent slopes

Map Unit Setting

Major Land Resource Area: 36
Elevation: 7,000 to 7,500 feet (2,134 to 2,286 meters)
Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)
Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)
Frost-free period: 110 to 130 days

Map Unit Composition

Orejas and similar soils: 40 percent
 Rock outcrop: 40 percent
 Minor components: 20 percent

Component Descriptions**Orejas soils**

Landscape: Uplands
Landform: Plateaus, mesas
Position on landform: Shoulders
Position on landform: Side slope
Parent material: Eolian material, alluvium and colluvium derived from basalt
Slope: 15 to 40 percent
Aspect: East to west
Shape (down/across): Linear/linear
Depth class: Shallow
Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)
Available water capacity: About 1.8 inches (very low)
Shrink-swell potential: About 4.5 percent (moderate)
Runoff class: Very high
Calcium carbonate maximum: About 10 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)



Figure 3.—Typical landscape of Orejas-Rock outcrop complex, 15 to 40 percent slopes.

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: *Pinus edulis*-*Juniperus monosperma*/*Quercus gambelii*/*Bouteloua gracilis*

Potential native vegetation:

Common trees: twoneedle pinyon, oneseed juniper

Other plants: blue grama, sideoats grama, big sagebrush

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 5 inches; very stony loam

Bt—5 to 15 inches; very cobbly clay loam

C—15 to 19 inches; very cobbly clay loam

R—19 to 60 inches; bedrock

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landscape: Uplands

Landform: Breaks, escarpments

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Minor Components

Montecito and similar soils

Composition: About 10 percent

Slope: 3 to 30 percent

Drainage class: Well drained
Ecological site: pinyon-juniper forest

San Mateo and similar soils
Composition: About 10 percent
Slope: 0 to 3 percent
Drainage class: Well drained
Flooding hazard: Rare
Ecological site: Swale

101—Blancot-Lybrook association, 0 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 37
Elevation: 6,600 to 7,000 feet (2,012 to 2,134 meters)
Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)
Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)
Frost-free period: 110 to 130 days

Map Unit Composition

Blancot and similar soils: 55 percent
 Lybrook and similar soils: 25 percent
 Minor components: 20 percent

Component Descriptions

Blancot soils

Landscape: Uplands
Landform: Ridges, valley sides
Position on landform: Footslopes
Position on landform: Side slope
Parent material: Fan alluvium derived from sandstone and shale
Slope: 2 to 8 percent
 Aspect: East to west
 Shape (down/across): Linear/linear
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)
Available water capacity: About 9.5 inches (high)
Shrink-swell potential: About 3.0 percent (moderate)
Runoff class: Medium
Calcium carbonate maximum: About 10 percent
Gypsum maximum: None
Salinity maximum: About 4 mmhos/cm (very slightly saline)
Sodium adsorption ratio maximum: About 5 (slightly sodic)
Ecological site: Loamy
Potential native vegetation: Indian ricegrass, blue grama, galleta, big sagebrush, sand dropseed, western wheatgrass
Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 2 inches; fine sandy loam
 Bt1—2 to 5 inches; clay loam
 Bt2—5 to 14 inches; clay loam
 Btk—14 to 23 inches; clay loam
 C1—23 to 40 inches; sandy loam
 C2—40 to 49 inches; silty clay loam
 C3—49 to 60 inches; sandy loam

Lybrook soils*Landscape:* Valleys*Landform:* Stream terraces, valley floors*Position on landform:* Toeslopes*Position on landform:* Base slope*Parent material:* Stream alluvium derived from sandstone and shale*Slope:* 0 to 2 percent*Aspect:* East to west*Shape (down/across):* Concave/linear*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* 0.2 to 0.6 in./hr. (moderately slow)*Available water capacity:* About 10.6 inches (high)*Shrink-swell potential:* About 4.5 percent (moderate)*Runoff class:* Low*Calcium carbonate maximum:* About 10 percent*Gypsum maximum:* None*Salinity maximum:* About 25 mmhos/cm (strongly saline)*Sodium adsorption ratio maximum:* About 50 (strongly sodic)*Ecological site:* Salt Flats*Potential native vegetation:* alkali sacaton, fourwing saltbush, galleta, greasewood, shadscale saltbush, big sagebrush, inland saltgrass, western wheatgrass*Land capability subclass (nonirrigated):* 7s*Typical Profile:*

A—0 to 1 inch; clay loam
 C1—1 inch to 5 inches; silty clay loam
 C2—5 to 21 inches; clay loam
 C3—21 to 30 inches; silty clay loam
 C4—30 to 60 inches; clay loam

Minor Components

Bettonie and similar soils

Composition: About 10 percent*Slope:* 5 to 8 percent*Drainage class:* Well drained*Ecological site:* Sandy

Counselor and similar soils

Composition: About 10 percent*Slope:* 1 to 3 percent*Drainage class:* Well drained*Ecological site:* Sandy

102—Sparham clay loam, 1 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,500 to 7,500 feet (1,981 to 2,286 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Sparham and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Sparham soils

Landscape: Valleys

Landform: Valley sides, alluvial fans, flood plains

Position on landform: Toeslopes

Position on landform: Rise

Parent material: Stream alluvium derived from shale

Slope: 1 to 3 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 11.8 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Flooding hazard: Occasional

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 16 mmhos/cm (moderately saline)

Sodium adsorption ratio maximum: About 30 (strongly sodic)

Ecological site: Bottomland

Potential native vegetation: western wheatgrass, alkali sacaton, bottlebrush
squirreltail, prairie junegrass

Land capability subclass (irrigated): 3s

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 7 inches; clay loam

C1—7 to 29 inches; clay loam

C2—29 to 60 inches; silty clay loam

Minor Components

Hickman and similar soils

Composition: About 5 percent

Slope: 1 to 3 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Swale

Pinitos and similar soils

Composition: About 5 percent*Slope:* 2 to 10 percent*Drainage class:* Well drained*Ecological site:* Loamy

Royosa and similar soils

Composition: About 5 percent*Slope:* 1 to 8 percent*Drainage class:* Somewhat excessively drained*Ecological site:* Deep Sand**104—Cochiti-Montecito association, 1 to 30 percent slopes****Map Unit Setting***Major Land Resource Area:* 36*Elevation:* 6,500 to 7,000 feet (1,981 to 2,134 meters)*Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 48 to 52 degrees F. (8.9 to 11.1 degrees C.)*Frost-free period:* 110 to 130 days**Map Unit Composition**

Cochiti and similar soils: 50 percent

Montecito and similar soils: 30 percent

Minor components: 20 percent

Component Descriptions**Cochiti soils***Landscape:* Uplands*Landform:* Fan remnants*Position on landform:* Footslopes*Position on landform:* Side slope*Parent material:* Fan alluvium derived from igneous and sedimentary rock*Slope:* 3 to 30 percent*Aspect:* East to west*Shape (down/across):* Linear/linear*Surface fragments:* About 15 percent subrounded gravel*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* .06 to 0.2 in./hr. (slow)*Available water capacity:* About 4.8 inches (low)*Shrink-swell potential:* About 4.1 percent (moderate)*Runoff class:* High*Calcium carbonate maximum:* About 10 percent*Gypsum maximum:* None*Salinity maximum:* About 2 mmhos/cm (nonsaline)*Sodium adsorption ratio maximum:* About 0 (nonsodic)*Ecological site:* Juniperus monosperma-Pinus edulis/Fallugia paradoxa-

Chrysothamnus nauseosus/Bouteloua hirsuta-Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, sideoats grama, bottlebrush squirreltail

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 7 inches; gravelly loam

Bt1—7 to 12 inches; gravelly clay loam

Bt2—12 to 20 inches; very gravelly clay

Bt3—20 to 29 inches; very gravelly clay loam

C—29 to 60 inches; very gravelly sandy loam

Montecito soils

Landscape: Uplands

Landform: Hills, mesas, plains

Position on landform: Toeslopes

Position on landform: Side slope

Parent material: Eolian deposits over fan alluvium derived from sandstone and shale

Slope: 1 to 5 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 8.1 inches (moderate)

Shrink-swell potential: About 2.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Potential native vegetation:

Common trees: twoneedle pinyon, oneseed juniper

Other plants: blue grama, bottlebrush squirreltail, muttongrass

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 3 inches; loam

Bt1—3 to 9 inches; clay loam

Bt2—9 to 15 inches; clay loam

Bt3—15 to 22 inches; clay loam

2Bk1—22 to 37 inches; sandy loam

2Bk2—37 to 60 inches; gravelly sandy loam

Minor Components

Cajete and similar soils

Composition: About 10 percent

Slope: 0 to 8 percent

Drainage class: Well drained

Ecological site: Loamy

Waumac and similar soils

Composition: About 10 percent

Slope: 1 to 7 percent

Drainage class: Well drained

Ecological site: Sandy

105—Badland-Menefee complex, 15 to 35 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,500 to 7,600 feet (1,981 to 2,316 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Badland: 50 percent

Menefee and similar soils: 30 percent

Minor components: 20 percent

Component Descriptions

Badland

Landform: Escarpments

Slope: 15 to 35 percent

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (paralithic)

Drainage class: Somewhat excessively drained

Runoff class: Very high

Land capability subclass (nonirrigated): 8

Menefee soils

Landscape: Hills

Landform: Mesas, mountainsides, hillslopes

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Colluvium over residuum weathered from shale

Slope: 15 to 35 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 8 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 1.9 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Very high

Calcium carbonate maximum: About 5 percent

Gypsum maximum: About 1 percent

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, Rocky Mountain juniper, twoneedle pinyon

Other plants: blue grama, galleta, sideoats grama, Gambel oak, big sagebrush

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 4 inches; loam

C—4 to 10 inches; clay loam

2Cr—10 to 60 inches; bedrock

Minor Components

Pinitos and similar soils

Composition: About 10 percent

Slope: 2 to 10 percent

Drainage class: Well drained

Ecological site: Loamy

Sparham and similar soils

Composition: About 10 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Occasional

Ecological site: Clayey

106—Stumble association, 1 to 40 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,000 to 5,600 feet (1,524 to 1,707 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Stumble and similar soils: 50 percent

Stumble, sandy and similar soils: 30 percent

Minor components: 20 percent

Component Descriptions

Stumble soils

Landscape: Valleys

Landform: Fan aprons, inset fans, alluvial fans, fan remnants

Position on landform: Footslopes

Position on landform: Side slope, rise

Parent material: Eolian deposits derived from sandstone

Slope: 10 to 40 percent

Aspect: East to west

Shape (down/across): Linear, convex/linear

Depth class: Very deep

Drainage class: Somewhat excessively drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 2.6 inches (very low)
Shrink-swell potential: About 1.5 percent (low)
Runoff class: Medium
Calcium carbonate maximum: About 10 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 5 (slightly sodic)
Ecological site: Gravelly Sand
Potential native vegetation: black grama, bush muhly
Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 4 inches; very gravelly fine sandy loam
 Bw—4 to 10 inches; gravelly fine sandy loam
 C1—10 to 24 inches; loamy sand
 C2—24 to 60 inches; gravelly coarse sand

Stumble, sandy soils

Landscape: Valleys
Landform: Alluvial fans, fan remnants, fan aprons, inset fans
Position on landform: Footslopes
Position on landform: Rise, side slope
Parent material: Eolian deposits derived from sandstone
Slope: 1 to 10 percent
Aspect: East to west
Shape (down/across): Linear/linear
Depth class: Very deep
Drainage class: Somewhat excessively drained
Slowest permeability: 6.0 to 20 in./hr. (rapid)
Available water capacity: About 2.0 inches (very low)
Shrink-swell potential: About 1.5 percent (low)
Flooding hazard: Rare
Runoff class: Low
Calcium carbonate maximum: About 10 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 5 (slightly sodic)
Ecological site: Deep Sand
Potential native vegetation: black grama, Indian ricegrass, dropseed, bush muhly, sand sagebrush
Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 4 inches; gravelly loamy sand
 Bw—4 to 18 inches; loamy sand
 C—18 to 60 inches; gravelly coarse sand

Minor Components

Embudo and similar soils
Composition: About 10 percent
Slope: 1 to 15 percent
Drainage class: Well drained
Ecological site: Sandy

Grieta and similar soils

Composition: About 10 percent

Slope: 1 to 4 percent

Drainage class: Well drained

Ecological site: Loamy

108—Embudo gravelly sandy loam, 1 to 15 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,000 to 5,600 feet (1,524 to 1,707 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.7 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Embudo and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Embudo soils

Landscape: Valleys

Landform: Fan remnants

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Fan alluvium derived from granite

Slope: 1 to 15 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 5.5 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Sandy

Potential native vegetation: black grama, dropseed, Indian ricegrass, sand sagebrush

Land capability subclass (nonirrigated): 7c

Typical Profile:

AB—0 to 6 inches; gravelly sandy loam

Bk1—6 to 30 inches; sandy loam

2Bk2—30 to 60 inches; loamy sand

Minor Components

Cascajo and similar soils

Composition: About 5 percent

Slope: 12 to 30 percent

Drainage class: Excessively drained

Ecological site: Hills

Riverwash

Composition: About 5 percent

Landscape: Valleys

Landform: Streams, channels

Position on landform: Toeslopes

Position on landform: Base slope

Slope: 0 to 3 percent

Shape (down/across): Concave/linear

Drainage class: Somewhat poorly drained

Flooding hazard: Frequent

Sheppard and similar soils

Composition: About 3 percent

Slope: 10 to 40 percent

Drainage class: Somewhat excessively drained

Ecological site: Deep Sand

Tijeras and similar soils

Composition: About 2 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Sandy

109—Embudo-Tijeras association, 1 to 9 percent slopes**Map Unit Setting**

Major Land Resource Area: 42

Elevation: 5,100 to 5,600 feet (1,554 to 1,707 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Embudo and similar soils: 50 percent

Tijeras and similar soils: 35 percent

Minor components: 15 percent

Component Descriptions**Embudo soils**

Landscape: Valleys

Landform: Fan remnants

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Fan alluvium derived from granite

Slope: 3 to 9 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 3.8 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Sandy

Potential native vegetation: black grama, dropseed, Indian ricegrass, sand sagebrush

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 4 inches; gravelly sandy loam

Bw—4 to 12 inches; gravelly fine sandy loam

Bk1—12 to 30 inches; gravelly coarse sandy loam

2Bk2—30 to 60 inches; gravelly loamy coarse sand

Tijeras soils

Landscape: Valleys

Landform: Fan remnants

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Fan alluvium derived from granite

Slope: 1 to 6 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 4.6 inches (low)

Shrink-swell potential: About 2.4 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Sandy

Potential native vegetation: black grama, dropseed, Indian ricegrass, sand sagebrush

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 4 inches; gravelly fine sandy loam

Bt—4 to 10 inches; sandy clay loam

Btk—10 to 20 inches; sandy clay loam

Bk1—20 to 26 inches; gravelly sandy loam

Bk2—26 to 60 inches; very gravelly coarse sandy loam

Minor Components

Grieta and similar soils

Composition: About 10 percent

Slope: 2 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

Sheppard and similar soils

Composition: About 5 percent

Slope: 3 to 8 percent

Drainage class: Somewhat excessively drained

Ecological site: Deep Sand

110—Rock outcrop-Saido complex, 5 to 40 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 5,300 to 6,000 feet (1,615 to 1,829 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Rock outcrop: 45 percent

Saido and similar soils: 40 percent

Minor components: 15 percent

Component Descriptions**Rock outcrop**

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Escarpments, breaks

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Saido soils

Landscape: Hills

Landform: Mesas, cuestras, knolls, fans

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Slope alluvium derived from gypsum

Slope: 5 to 40 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 10.8 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate maximum: About 10 percent

Gypsum maximum: About 80 percent

Salinity maximum: About 8 mmhos/cm (slightly saline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Gyp Upland

Potential native vegetation: alkali sacaton, black grama, bush muhly, gyp dropseed, blue grama, coldenia, fourwing saltbush, galleta, gypsum grama

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 5 inches; silt loam

By1—5 to 9 inches; silt loam

By2—9 to 15 inches; silt loam

By3—15 to 25 inches; silt loam

C—25 to 60 inches; loam

Minor Components

Riverwash

Composition: About 5 percent

Landscape: Valleys

Landform: Streams, channels

Position on landform: Toeslopes

Position on landform: Base slope

Slope: 0 to 3 percent

Shape (down/across): Concave/linear

Drainage class: Somewhat poorly drained

Flooding hazard: Frequent

Penistaja and similar soils

Composition: About 5 percent

Slope: 2 to 7 percent

Drainage class: Well drained

Ecological site: Loamy

Hagerman and similar soils

Composition: About 5 percent

Slope: 1 to 5 percent

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Loamy

111—Rock outcrop-Zia complex, 8 to 25 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,400 to 6,400 feet (1,646 to 1,951 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Rock outcrop: 50 percent

Zia and similar soils: 35 percent

Minor components: 15 percent



Figure 4.—Typical landscape of Rock outcrop-Zia complex, 8 to 25 percent slopes.

Component Descriptions

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Escarpments, breaks

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Zia soils

Landscape: Valleys

Landform: Alluvial fans

Position on landform: Toeslopes

Position on landform: Rise

Parent material: Eolian deposits over fan alluvium derived from sandstone

Slope: 8 to 25 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 8.2 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 15 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Foothills

Potential native vegetation: blue grama, hairy grama, black grama, sideoats grama, galleta, oneseed juniper, sacahuista

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 5 inches; sandy loam

C—5 to 60 inches; fine sandy loam

Minor Components

Penistaja and similar soils

Composition: About 5 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

Hagerman and similar soils

Composition: About 5 percent

Slope: 1 to 5 percent

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Loamy

San Mateo and similar soils

Composition: About 3 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Swale

Skyvillage and similar soils

Composition: About 2 percent

Slope: 3 to 20 percent

Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Shallow Sandstone

112—Tijeras gravelly fine sandy loam, 1 to 5 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,100 to 5,600 feet (1,554 to 1,707 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Tijeras and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Tijeras soils

Landscape: Uplands

Landform: Fan remnants

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Fan alluvium derived from granite

Slope: 1 to 5 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 6.5 inches (moderate)

Shrink-swell potential: About 2.1 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Sandy

Potential native vegetation: black grama, dropseed, Indian ricegrass, sand sagebrush

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 3 inches; gravelly fine sandy loam

Bt—3 to 14 inches; sandy clay loam

Bk—14 to 60 inches; gravelly sandy loam

Minor Components

Embudo and similar soils

Composition: About 15 percent

Landform: Fan remnants

Slope: 1 to 15 percent

Drainage class: Well drained

Ecological site: Sandy

114—Zia-San Mateo association, 0 to 9 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,500 to 6,200 feet (1,676 to 1,890 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Zia and similar soils: 40 percent

San Mateo and similar soils: 40 percent

Minor components: 20 percent

Component Descriptions

Zia soils

Landscape: Valleys

Landform: Alluvial fans

Position on landform: Footslopes

Position on landform: Rise

Parent material: Eolian deposits over fan alluvium derived from sandstone

Slope: 1 to 9 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 8.3 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 15 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Sandy

Potential native vegetation: blue grama, spike muhly, western wheatgrass, bottlebrush squirreltail, fourwing saltbush, oneseed juniper, winterfat

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 3 inches; fine sandy loam

C—3 to 60 inches; fine sandy loam

San Mateo soils

Landscape: Valleys

Landform: Alluvial fans, valley sides, flood plains

Position on landform: Footslopes

Position on landform: Rise

Parent material: Stream alluvium derived from sandstone and shale

Slope: 0 to 3 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 9.2 inches (high)

Shrink-swell potential: About 4.3 percent (moderate)

Flooding hazard: Rare

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 30 mmhos/cm (strongly saline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Swale

Potential native vegetation: galleta, big sagebrush, blue grama, bottlebrush squirreltail, other half shrubs, western wheatgrass

Land capability subclass (irrigated): 2e

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 7 inches; sandy loam

C—7 to 60 inches; stratified sandy loam to loam to clay loam to silty clay loam

Minor Components

Sparank and similar soils

Composition: About 10 percent*Slope:* 0 to 1 percent*Drainage class:* Well drained*Flooding hazard:* Occasional*Ecological site:* Clayey Bottomland

Querencia and similar soils

Composition: About 10 percent*Slope:* 1 to 8 percent*Drainage class:* Well drained*Ecological site:* Loamy**120—Pinavetes loamy sand, 3 to 5 percent slopes****Map Unit Setting***Major Land Resource Area:* 36*Elevation:* 5,300 to 6,000 feet (1,615 to 1,829 meters)*Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 52 to 54 degrees F. (11.1 to 12.2 degrees C.)*Frost-free period:* 120 to 140 days**Map Unit Composition**

Pinavetes and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Pinavetes soils***Landscape:* Dune fields*Landform:* Dunes, valley sides*Position on landform:* Shoulders*Position on landform:* Side slope*Parent material:* Eolian deposits derived from sandstone*Slope:* 3 to 5 percent*Aspect:* East to west*Shape (down/across):* Convex/linear*Depth class:* Very deep*Drainage class:* Excessively drained*Slowest permeability:* 6.0 to 20 in./hr. (rapid)*Available water capacity:* About 2.9 inches (very low)*Shrink-swell potential:* About 1.5 percent (low)*Runoff class:* Very low*Calcium carbonate maximum:* About 5 percent*Gypsum maximum:* None*Salinity maximum:* About 2 mmhos/cm (nonsaline)*Sodium adsorption ratio maximum:* About 0 (nonsodic)



Figure 5.—Typical landscape of Pinavetes loamy sand, 3 to 5 percent slopes.

Ecological site: Deep Sand

Potential native vegetation: Indian ricegrass, blue grama, sand sagebrush

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 10 inches; loamy sand

C1—10 to 35 inches; sand

C2—35 to 60 inches; sand

Minor Components

San Mateo and similar soils

Composition: About 10 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Swale

Zia and similar soils

Composition: About 5 percent

Slope: 1 to 3 percent

Drainage class: Well drained

Ecological site: Sandy

124—Rock outcrop

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,300 to 6,000 feet (1,615 to 1,829 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Map Unit Composition

Rock outcrop: 90 percent

Minor components: 10 percent

Component Descriptions

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Mesas, escarpments

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Minor Components

Vessilla and similar soils

Composition: About 10 percent

Slope: 5 to 40 percent

Depth to restrictive feature: 5 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Shallow Sandstone

129—Menefee clay loam, 5 to 35 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,800 to 7,800 feet (2,073 to 2,377 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Menefee and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Menefee soils

Landscape: Hills

Landform: Mountainsides, hillslopes, mesas

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Colluvium over residuum weathered from shale

Slope: 5 to 35 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 8 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 3.4 inches (low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Very high

Calcium carbonate maximum: About 5 percent

Gypsum maximum: About 1 percent

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: *Pinus edulis*-*Juniperus monosperma*/*Quercus gambelii*/*Bouteloua gracilis*

Potential native vegetation:

Common trees: Rocky Mountain juniper, oneseed juniper, twoneedle pinyon

Other plants: blue grama, Gambel oak, galleta, big sagebrush, sideoats grama

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 5 inches; clay loam

C1—5 to 10 inches; clay loam

C2—10 to 17 inches; clay loam

2Cr—17 to 60 inches; bedrock

Minor Components

Pinitos and similar soils

Composition: About 5 percent

Slope: 2 to 10 percent

Drainage class: Well drained

Ecological site: pinyon-juniper forest

Cochiti and similar soils

Composition: About 5 percent

Slope: 3 to 30 percent

Drainage class: Well drained

Ecological site: pinyon-juniper forest

Badland

Composition: About 5 percent

Slope: 5 to 75 percent

Depth to restrictive feature: 0 inches to bedrock (paralithic)

130—Pinavetes-Galisteo, moderately saline, sodic, association, 0 to 5 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,500 to 6,000 feet (1,676 to 1,829 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Pinavetes and similar soils: 45 percent

Galisteo, moderately saline, sodic and similar soils: 40 percent

Minor components: 15 percent

Component Descriptions

Pinavetes soils

Landscape: Valleys

Landform: Dunes, valley sides

Position on landform: Shoulders

Position on landform: Side slope

Parent material: Eolian deposits derived from sandstone

Slope: 0 to 5 percent

Aspect: East to west

Shape (down/across): Convex/convex

Depth class: Very deep

Drainage class: Excessively drained

Slowest permeability: 6.0 to 20 in./hr. (rapid)

Available water capacity: About 4.1 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very low

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Deep Sand

Potential native vegetation: Indian ricegrass, blue grama, sand sagebrush

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 2 inches; loamy sand

C—2 to 60 inches; loamy sand

Galisteo, moderately saline, sodic soils

Landscape: Valleys

Landform: Alluvial fans, stream terraces

Position on landform: Toeslopes

Position on landform: Rise

Parent material: Stream alluvium derived from sandstone and shale

Slope: 0 to 2 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 9.0 inches (moderate)

Shrink-swell potential: About 7.5 percent (high)

Flooding hazard: Rare

Runoff class: Medium

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 16 mmhos/cm (moderately saline)

Sodium adsorption ratio maximum: About 30 (strongly sodic)

Ecological site: Salty Bottomland

Potential native vegetation: alkali sacaton, western wheatgrass, bottlebrush squirreltail, galleta, fourwing saltbush, greasewood
Land capability subclass (nonirrigated): 6c

Typical Profile:

Ap—0 to 2 inches; clay loam
 C—2 to 60 inches; clay

Minor Components

Riverwash

Composition: About 5 percent
Landscape: Valleys
Landform: Streams, channels
Position on landform: Toeslopes
Position on landform: Base slope
Slope: 0 to 3 percent
Shape (down/across): Concave/linear
Drainage class: Somewhat poorly drained
Flooding hazard: Frequent

El Rancho and similar soils

Composition: About 5 percent
Slope: 0 to 2 percent
Drainage class: Well drained
Ecological site: Loamy

San Mateo and similar soils

Composition: About 5 percent
Slope: 0 to 3 percent
Drainage class: Well drained
Flooding hazard: Rare
Ecological site: Swale

142—Grieta fine sandy loam, 1 to 4 percent slopes

Map Unit Setting

Major Land Resource Area: 42
Elevation: 5,000 to 6,000 feet (1,524 to 1,829 meters)
Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)
Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)
Frost-free period: 140 to 160 days

Map Unit Composition

Grieta and similar soils: 85 percent
 Minor components: 15 percent

Component Descriptions

Grieta soils

Landscape: Uplands
Landform: Plateaus, fan remnants, ridges, mesas
Position on landform: Shoulders
Position on landform: Side slope
Parent material: Eolian deposits over fan alluvium derived from sandstone

Slope: 1 to 4 percent

Aspect: East to west

Shape (down/across): Linear/linear

Surface fragments: About 5 percent fine subrounded gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 7.9 inches (moderate)

Shrink-swell potential: About 3.5 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: About 20 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Loamy

Potential native vegetation: black grama, dropseed, Indian ricegrass, sand sagebrush

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 3 inches; fine sandy loam

Bt1—3 to 11 inches; fine sandy loam

Bt2—11 to 34 inches; sandy clay loam

Bk1—34 to 48 inches; sandy clay loam

Bk2—48 to 60 inches; loamy sand

Minor Components

Sheppard and similar soils

Composition: About 15 percent

Slope: 3 to 8 percent

Drainage class: Somewhat excessively drained

Ecological site: Deep Sand

143—Clovis fine sandy loam, 1 to 4 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,000 to 6,600 feet (1,829 to 2,012 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Clovis and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Clovis soils

Landscape: Uplands

Landform: Fan remnants, plains, mesas

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Eolian deposits over slope alluvium derived from sandstone and shale

Slope: 1 to 4 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 8.8 inches (moderate)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: About 25 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 1 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, bottlebrush squirreltail

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 3 inches; fine sandy loam

Bt1—3 to 7 inches; sandy clay loam

Bt2—7 to 12 inches; sandy clay loam

Bt3—12 to 22 inches; sandy clay loam

Bk1—22 to 34 inches; sandy clay loam

Bk2—34 to 60 inches; sandy clay loam

Minor Components

Harvey and similar soils

Composition: About 5 percent

Slope: 5 to 10 percent

Drainage class: Well drained

Ecological site: Limy

Zia and similar soils

Composition: About 5 percent

Slope: 3 to 6 percent

Drainage class: Well drained

Ecological site: Sandy

Pinavetes and similar soils

Composition: About 5 percent

Slope: 3 to 5 percent

Drainage class: Excessively drained

Ecological site: Deep Sand

145—Grieta-Sheppard loamy fine sands, 2 to 9 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,200 to 6,000 feet (1,585 to 1,829 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Grieta and similar soils: 55 percent
 Sheppard and similar soils: 40 percent
 Minor components: 5 percent

Component Descriptions

Grieta soils

Landscape: Uplands
Landform: Fan remnants, ridges, plateaus, mesas
Position on landform: Footslopes
Position on landform: Side slope
Parent material: Eolian deposits over fan alluvium derived from sandstone
Slope: 2 to 5 percent
 Aspect: East to west
 Shape (down/across): Linear/linear
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 0.6 to 2.0 in./hr. (moderate)
Available water capacity: About 6.5 inches (moderate)
Shrink-swell potential: About 2.2 percent (low)
Runoff class: Low
Calcium carbonate maximum: About 15 percent
Gypsum maximum: None
Salinity maximum: About 4 mmhos/cm (very slightly saline)
Sodium adsorption ratio maximum: About 2 (slightly sodic)
Ecological site: Loamy
Potential native vegetation: blue grama, bottlebrush squirreltail
Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 7 inches; loamy fine sand
 Bt1—7 to 14 inches; sandy clay loam
 Bt2—14 to 21 inches; sandy clay loam
 Bk1—21 to 38 inches; coarse sandy loam
 Bk2—38 to 50 inches; coarse sandy loam
 Bk3—50 to 60 inches; coarse sandy loam

Sheppard soils

Landscape: Uplands
Landform: Alluvial fans, benches, dunes, structural benches, terraces
Position on landform: Shoulders
Position on landform: Rise, side slope
Parent material: Eolian deposits derived from sandstone
Slope: 3 to 9 percent
 Aspect: East to west
 Shape (down/across): Linear, convex/linear
Depth class: Very deep
Drainage class: Somewhat excessively drained
Slowest permeability: 6.0 to 20 in./hr. (rapid)
Available water capacity: About 5.3 inches (low)
Shrink-swell potential: About 1.5 percent (low)
Runoff class: Low
Calcium carbonate maximum: About 10 percent
Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Deep Sand

Potential native vegetation: Indian ricegrass, black grama, sand dropseed, sand sagebrush, spike dropseed

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 5 inches; loamy fine sand

C—5 to 27 inches; loamy fine sand

C—27 to 60 inches; loamy fine sand

Minor Components

Cascajo and similar soils

Composition: About 3 percent

Slope: 12 to 30 percent

Drainage class: Excessively drained

Ecological site: Hills

Riverwash

Composition: About 2 percent

Landscape: Valleys

Landform: Streams, channels

Position on landform: Toeslopes

Position on landform: Base slope

Slope: 0 to 3 percent

Shape (down/across): Concave/linear

Drainage class: Somewhat poorly drained

Flooding hazard: Frequent

146—Sedmar loamy sand, 1 to 15 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 7,000 to 8,000 feet (2,134 to 2,438 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Sedmar and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Sedmar soils

Landscape: Uplands

Landform: Ridges, cuestas

Position on landform: Shoulders

Position on landform: Side slope

Parent material: Slope alluvium over residuum weathered from sandstone

Slope: 1 to 15 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very shallow and shallow
Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)
Drainage class: Excessively drained
Slowest permeability: 6.0 to 20 in./hr. (rapid)
Available water capacity: About 1.8 inches (very low)
Shrink-swell potential: About 1.5 percent (low)
Runoff class: Very high
Calcium carbonate maximum: None
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Pinus ponderosa/Quercus gambelii
Potential native vegetation:
 Common trees: ponderosa pine, Gambel oak
 Other plants: prairie junegrass, Rocky Mountain juniper, Utah juniper, true mountain mahogany
Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 3 inches; loamy sand
 C1—3 to 13 inches; sandy loam
 C2—13 to 18 inches; loamy sand
 2R—18 to 60 inches; bedrock

Minor Components

Menefee and similar soils
 Composition: About 8 percent
 Slope: 15 to 35 percent
 Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)
 Drainage class: Well drained
 Ecological site: Ponderosa Pine Forest

Rock outcrop

Composition: About 7 percent
 Depth to restrictive feature: 0 inches to bedrock (lithic)

150—Doakum-Betonnies fine sandy loams, 0 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 37
Elevation: 6,600 to 7,000 feet (2,012 to 2,134 meters)
Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)
Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)
Frost-free period: 110 to 130 days

Map Unit Composition

Doakum and similar soils: 55 percent
 Betonnies and similar soils: 35 percent
 Minor components: 10 percent

Component Descriptions

Doakum soils

Landscape: Uplands

Landform: Mesas, plateaus, hills, cuestras, bajadas

Position on landform: Footslopes

Position on landform: Head slope, side slope, nose slope

Parent material: Eolian deposits over slope alluvium derived from sandstone and shale

Slope: 0 to 5 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 10.0 inches (high)

Shrink-swell potential: About 4.4 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 8 mmhos/cm (slightly saline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: Indian ricegrass, blue grama, galleta, big sagebrush, bottlebrush squirreltail, sand dropseed, western wheatgrass

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 5 inches; fine sandy loam

Bt1—5 to 11 inches; clay loam

Bt2—11 to 17 inches; sandy clay loam

Bk1—17 to 24 inches; sandy clay loam

Bk2—24 to 31 inches; clay loam

Bk3—31 to 44 inches; loam

C—44 to 60 inches; loam

Betonne soils

Landscape: Uplands

Landform: Cuestras, mesas, plateaus, hills, valley sides, fan remnants

Position on landform: Footslopes

Position on landform: Head slope, side slope, nose slope

Parent material: Eolian deposits over slope alluvium derived from sandstone

Slope: 5 to 8 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 7.3 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Sandy

Potential native vegetation: Indian ricegrass, dropseed, needle and thread, winterfat, alkali sacaton, fourwing saltbush, mormon tea, sand sagebrush, sandhill muhly

Land capability subclass (nonirrigated): 6c

Typical Profile:

- A—0 to 2 inches; fine sandy loam
- BA—2 to 4 inches; fine sandy loam
- Bt—4 to 12 inches; fine sandy loam
- BC—12 to 18 inches; sandy loam
- C1—18 to 34 inches; sandy loam
- C2—34 to 60 inches; sandy loam

Minor Components

Blancot and similar soils

Composition: About 5 percent

Slope: 3 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

Eslendo and similar soils

Composition: About 3 percent

Slope: 5 to 30 percent

Depth to restrictive feature: 4 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Shallow

Mespuen and similar soils

Composition: About 2 percent

Slope: 5 to 30 percent

Drainage class: Excessively drained

Ecological site: Sandy

162—Hackroy-Nyjack association, 1 to 5 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,000 to 7,200 feet (1,829 to 2,195 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Hackroy and similar soils: 45 percent

Nyjack and similar soils: 40 percent

Minor components: 15 percent

Component Descriptions

Hackroy soils

Landscape: Uplands

Landform: Mesas, plateaus

Position on landform: Shoulders

Position on landform: Side slope

Parent material: Residuum weathered from tuff

Slope: 1 to 5 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 8 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 1.9 inches (very low)

Shrink-swell potential: About 7.5 percent (high)

Runoff class: High

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: Indian ricegrass, blue grama, needle and thread, skunkbush sumac

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; sandy loam

Bt—3 to 13 inches; clay

2R—13 to 60 inches; bedrock

Nyjack soils

Landscape: Uplands

Landform: Plateaus, mesas

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Eolian deposits over slope alluvium derived from tuff

Slope: 1 to 5 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Moderately deep

Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 6.1 inches (moderate)

Shrink-swell potential: About 3.2 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus ponderosa-Juniperus deppeana/Quercus gambelii

Potential native vegetation:

Common trees: oneseed juniper, ponderosa pine, twoneedle pinyon

Other plants: blue grama, little bluestem, wavyleaf oak, western wheatgrass

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 3 inches; loam
 Bt1—3 to 13 inches; clay loam
 Bt2—13 to 24 inches; clay loam
 2C—24 to 39 inches; gravelly sandy loam
 2Cr—39 to 60 inches; bedrock

Minor Components

Frijoles and similar soils

Composition: About 10 percent

Slope: 1 to 8 percent

Drainage class: Well drained

Ecological site: pinyon-juniper forest

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

163—Jemez loam, 1 to 15 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 7,000 to 7,500 feet (2,134 to 2,286 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Jemez and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Jemez soils**

Landscape: Uplands

Landform: Plateaus, hills

Position on landform: Summits

Position on landform: Side slope

Parent material: Slope alluvium derived from tuff

Slope: 1 to 15 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Moderately deep

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 7.0 inches (moderate)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Potential native vegetation:

Common trees: white fir, ponderosa pine, Douglas-fir

Other plants: needle and thread, skunkbush sumac, western wheatgrass, Gambel oak

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 3 inches; loam

BA—3 to 24 inches; clay loam

Bt—24 to 39 inches; sandy clay loam

R—39 to 60 inches; bedrock

Minor Components

Carjo and similar soils

Composition: About 5 percent

Slope: 1 to 9 percent

Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Pinus ponderosa/Quercus gambelii

Alanos and similar soils

Composition: About 5 percent

Slope: 5 to 40 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Mirand and similar soils

Composition: About 3 percent

Slope: 5 to 30 percent

Drainage class: Well drained

Ecological site: Pinus ponderosa/Quercus gambelii

Rock outcrop

Composition: About 2 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

170—San Mateo loam, 0 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,800 to 6,800 feet (1,768 to 2,073 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

San Mateo and similar soils: 85 percent

Minor components: 15 percent



Figure 6.—Typical landscape of San Mateo loam, 0 to 3 percent slopes. This area is prone to flooding.

Component Descriptions

San Mateo soils

Landscape: Valleys

Landform: Alluvial fans, valley sides, flood plains

Position on landform: Toeslopes

Position on landform: Rise

Parent material: Stream alluvium derived from sandstone and shale

Slope: 0 to 3 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 10.7 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Flooding hazard: Rare

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 8 mmhos/cm (slightly saline)

Sodium adsorption ratio maximum: About 30 (strongly sodic)

Ecological site: Swale

Potential native vegetation: galleta, big sagebrush, blue grama, bottlebrush squirreltail, other half shrubs, western wheatgrass

Land capability subclass (irrigated): 2e

Land capability subclass (nonirrigated): 6e

Typical Profile:

- A—0 to 2 inches; loam
- C1—2 to 10 inches; clay loam
- C2—10 to 23 inches; clay loam
- C3—23 to 32 inches; clay loam
- C4—32 to 54 inches; clay loam
- C5—54 to 60 inches; clay loam

Minor Components

Camino and similar soils

Composition: About 5 percent

Slope: 1 to 6 percent

Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Clayey

Querencia and similar soils

Composition: About 3 percent

Slope: 1 to 8 percent

Drainage class: Well drained

Ecological site: Loamy

Sandoval and similar soils

Composition: About 3 percent

Slope: 3 to 30 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Shallow

Skyvillage and similar soils

Composition: About 2 percent

Slope: 3 to 20 percent

Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Shallow Sandstone

Sparank and similar soils

Composition: About 2 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Occasional

Ecological site: Clayey Bottomland

180—Cuncelor-Eslendo-Mespun complex, 5 to 30 percent slopes

Map Unit Setting

Major Land Resource Area: 37

Elevation: 6,600 to 7,000 feet (2,012 to 2,134 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Councilor and similar soils: 40 percent

Eslendo and similar soils: 30 percent

Mespuen and similar soils: 25 percent

Minor components: 5 percent

Component Descriptions

Councilor soils

Landscape: Uplands

Landform: Stream terraces, fan remnants, valley floors, valley sides

Position on landform: Toeslopes

Position on landform: Side slope

Parent material: Eolian deposits over stream alluvium derived from sandstone and shale

Slope: 5 to 30 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 8.1 inches (moderate)

Shrink-swell potential: About 1.7 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Sandy

Potential native vegetation: Indian ricegrass, blue grama, dropseed, New Mexico

Feathergrass, big sagebrush, galleta, mormon tea, needle and thread, winterfat

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 2 inches; fine sandy loam

C1—2 to 7 inches; fine sandy loam

C2—7 to 37 inches; fine sandy loam

C3—37 to 40 inches; clay loam

C4—40 to 60 inches; sandy loam

Eslendo soils

Landscape: Uplands

Landform: Ridges

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Residuum weathered from shale

Slope: 5 to 30 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 4 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)
Available water capacity: About 2.0 inches (very low)
Shrink-swell potential: About 4.5 percent (moderate)
Runoff class: Very high
Calcium carbonate maximum: About 5 percent
Gypsum maximum: None
Salinity maximum: About 4 mmhos/cm (very slightly saline)
Sodium adsorption ratio maximum: About 5 (slightly sodic)
Ecological site: Shallow
Potential native vegetation: Indian ricegrass, galleta, blue grama, big sagebrush, mormon tea, threeawn
Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 3 inches; clay loam
C—3 to 10 inches; clay loam
Cr—10 to 60 inches; bedrock

Mespun soils

Landscape: Uplands
Landform: Dunes
Position on landform: Shoulders
Position on landform: Side slope
Parent material: Eolian deposits derived from sandstone
Slope: 5 to 30 percent
Aspect: East to west
Shape (down/across): Convex/linear
Depth class: Very deep
Drainage class: Excessively drained
Slowest permeability: 6.0 to 20 in./hr. (rapid)
Available water capacity: About 4.8 inches (low)
Shrink-swell potential: About 1.5 percent (low)
Runoff class: Low
Calcium carbonate maximum: About 10 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Deep Sand
Potential native vegetation: Indian ricegrass, blue grama, sand dropseed, sand sagebrush, spike dropseed
Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 6 inches; loamy fine sand
C—6 to 60 inches; loamy sand

Minor Components

Rock outcrop
Composition: About 5 percent
Depth to restrictive feature: 0 inches to bedrock (lithic)

183—Sheppard loamy fine sand, 8 to 15 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,200 to 5,700 feet (1,585 to 1,737 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Sheppard and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Sheppard soils

Landscape: Uplands

Landform: Structural benches, stream terraces, alluvial fans, benches, dunes

Position on landform: Shoulders

Position on landform: Rise, side slope

Parent material: Eolian deposits derived from sandstone

Slope: 8 to 15 percent

Aspect: East to west

Shape (down/across): Linear, convex/linear, convex

Depth class: Very deep

Drainage class: Somewhat excessively drained

Slowest permeability: 6.0 to 20 in./hr. (rapid)

Available water capacity: About 5.3 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Deep Sand

Potential native vegetation: Indian ricegrass, black grama, sand dropseed, sand sagebrush, spike dropseed

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 4 inches; loamy fine sand

C1—4 to 45 inches; loamy fine sand

C2—45 to 60 inches; loamy fine sand

Minor Components

Cascajo and similar soils

Composition: About 7 percent

Slope: 1 to 9 percent

Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Hills

Sheppard and similar soils

Composition: About 7 percent*Slope:* 3 to 8 percent*Drainage class:* Somewhat excessively drained*Ecological site:* Deep Sand

Riverwash

Composition: About 1 percent*Landscape:* Valleys*Landform:* Channels, streams*Position on landform:* Toeslopes*Position on landform:* Base slope*Slope:* 0 to 3 percent*Shape (down/across):* Concave/linear*Drainage class:* Somewhat poorly drained*Flooding hazard:* Frequent**185—Frijoles very fine sandy loam, 1 to 8 percent slopes****Map Unit Setting***Major Land Resource Area:* 36*Elevation:* 6,000 to 7,000 feet (1,829 to 2,134 meters)*Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 48 to 52 degrees F. (8.9 to 11.1 degrees C.)*Frost-free period:* 110 to 130 days**Map Unit Composition**

Frijoles and similar soils: 90 percent

Minor components: 10 percent

Component Descriptions**Frijoles soils***Landscape:* Uplands*Landform:* Mesas*Position on landform:* Summits*Position on landform:* Side slope*Parent material:* Eolian deposits over alluvium derived from pumice*Slope:* 1 to 8 percent*Aspect:* East to west*Shape (down/across):* Linear/linear*Depth class:* Very deep*Depth to restrictive feature:* 15 to 30 inches to abrupt textural change*Drainage class:* Well drained*Slowest permeability:* 0.2 to 0.6 in./hr. (moderately slow)*Available water capacity:* About 2.1 inches (very low)*Shrink-swell potential:* About 2.0 percent (low)*Runoff class:* Medium*Calcium carbonate maximum:* About 5 percent*Gypsum maximum:* None*Salinity maximum:* About 2 mmhos/cm (nonsaline)*Sodium adsorption ratio maximum:* About 0 (nonsodic)

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: Arizona fescue, blue grama

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 3 inches; very fine sandy loam

Bt1—3 to 8 inches; very gravelly clay loam

Bt2—8 to 13 inches; very gravelly clay loam

2C1—13 to 20 inches; extremely gravelly sandy loam

3C2—20 to 60 inches; fragmental material

Minor Components

Nyjack and similar soils

Composition: About 10 percent

Slope: 1 to 5 percent

Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: pinyon-juniper forest

190—Zia-Skyvillage-Rock outcrop complex, 5 to 40 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,800 to 6,400 feet (1,768 to 1,951 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Zia and similar soils: 35 percent

Skyvillage and similar soils: 25 percent

Rock outcrop: 15 percent

Minor components: 25 percent

Component Descriptions

Zia soils

Landscape: Uplands

Landform: Alluvial fans

Position on landform: Toeslopes

Position on landform: Rise

Parent material: Eolian deposits over fan alluvium derived from sandstone

Slope: 5 to 20 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 7.1 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 15 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Sandy

Potential native vegetation: blue grama, hairy grama, black grama, sideoats grama, galleta, oneseed juniper, sacahuista

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 5 inches; sandy loam

C1—5 to 28 inches; sandy loam

C2—28 to 60 inches; sandy loam

Skyvillage soils

Landscape: Uplands

Landform: Breaks, cuestras, hills, mesas, ridges, structural benches

Position on landform: Backslopes

Position on landform: Side slope, nose slope, head slope

Parent material: Slope alluvium derived from sandstone

Slope: 5 to 40 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 2.3 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very high

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Shallow Sandstone

Potential native vegetation: sideoats grama, blue grama, little bluestem, Indian ricegrass, galleta

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 2 inches; fine sandy loam

C1—2 to 11 inches; fine sandy loam

C2—11 to 16 inches; fine sandy loam

2R—16 to 60 inches; bedrock

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Breaks, escarpments

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Minor Components

Penistaja and similar soils

Composition: About 10 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

Badland

Composition: About 10 percent

Slope: 5 to 75 percent

Depth to restrictive feature: 0 inches to bedrock (paralithic)

Sandoval and similar soils

Composition: About 5 percent

Slope: 3 to 30 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Shallow

191—Sheppard loamy fine sand, 3 to 8 percent slopes**Map Unit Setting**

Major Land Resource Area: 42

Elevation: 5,200 to 5,700 feet (1,585 to 1,737 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Sheppard and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Sheppard soils**

Landscape: Uplands

Landform: Alluvial fans, stream terraces, dunes, benches, structural benches

Position on landform: Shoulders

Position on landform: Side slope, rise

Parent material: Eolian deposits derived from sandstone

Slope: 3 to 8 percent

Aspect: East to west

Shape (down/across): Convex, linear/convex, linear

Depth class: Very deep

Drainage class: Somewhat excessively drained

Slowest permeability: 6.0 to 20 in./hr. (rapid)

Available water capacity: About 5.3 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Deep Sand

Potential native vegetation: Indian ricegrass, black grama, sand dropseed, sand sagebrush, spike dropseed

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; loamy fine sand

C1—3 to 27 inches; loamy fine sand

C2—27 to 60 inches; loamy fine sand

Minor Components

Grieta and similar soils

Composition: About 12 percent

Slope: 1 to 4 percent

Drainage class: Well drained

Ecological site: Loamy

Riverwash

Composition: About 3 percent

Landscape: Valleys

Landform: Channels, streams

Position on landform: Toeslopes

Position on landform: Base slope

Slope: 0 to 3 percent

Shape (down/across): Concave/linear

Drainage class: Somewhat poorly drained

Flooding hazard: Frequent

200—Sedillo very cobbly sandy loam, 5 to 25 percent slopes, stony

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,400 to 6,100 feet (1,646 to 1,859 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Sedillo and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Sedillo soils

Landscape: Uplands

Landform: Fan remnants, stream terraces, bajadas

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Fan alluvium derived from igneous and sedimentary rock

Slope: 5 to 25 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained
Slowest permeability: 0.6 to 2.0 in./hr. (moderate)
Available water capacity: About 2.3 inches (very low)
Shrink-swell potential: About 2.0 percent (low)
Runoff class: Medium
Calcium carbonate maximum: About 30 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 5 (slightly sodic)
Ecological site: Gravelly
Potential native vegetation: blue grama, big sagebrush, black grama, hairy grama, needlegrass, New Mexico Feathergrass, oneseed juniper, sideoats grama, western wheatgrass, winterfat
Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 4 inches; very cobbly sandy loam
 Bt—4 to 13 inches; very gravelly sandy clay loam
 Bk—13 to 60 inches; extremely gravelly coarse sandy loam

Minor Components

Pastura and similar soils

Composition: About 5 percent
Slope: 1 to 4 percent
Depth to restrictive feature: 7 to 20 inches to petrocalcic
Drainage class: Well drained
Ecological site: Limy

Clovis and similar soils

Composition: About 5 percent
Slope: 1 to 4 percent
Drainage class: Well drained
Ecological site: Loamy

Riverwash

Composition: About 3 percent
Landscape: Valleys
Landform: Channels, streams
Position on landform: Toeslopes
Position on landform: Base slope
Slope: 0 to 3 percent
Shape (down/across): Concave/linear
Drainage class: Somewhat poorly drained
Flooding hazard: Frequent

Sedillo and similar soils

Composition: About 2 percent
Slope: 5 to 25 percent
Drainage class: Well drained
Ecological site: Foothills

201—Rock outcrop-Sedgran association, 25 to 55 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,800 to 8,000 feet (1,768 to 2,438 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Rock outcrop: 55 percent

Sedgran and similar soils: 35 percent

Minor components: 10 percent

Component Descriptions

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Escarpments, ridges

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Sedgran soils

Landscape: Mountains

Landform: Mountain slopes

Position on landform: Backslopes

Position on landform: Mountainflank, lower third

Parent material: Colluvium derived from granite

Slope: 25 to 55 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)

Drainage class: Excessively drained

Slowest permeability: 6.0 to 20 in./hr. (rapid)

Available water capacity: About 0.4 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very high

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Hills

Potential native vegetation: black grama, sideoats grama, New Mexico Feathergrass, little bluestem, New Mexico muhly, blue grama, mountain mahogany, needle and thread, oneseed juniper, skunkbush sumac, wavyleaf oak

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 4 inches; extremely gravelly loamy coarse sand
 C—4 to 13 inches; very gravelly loamy coarse sand
 2R—13 to 60 inches; bedrock

Minor Components

Sedillo and similar soils

Composition: About 9 percent
Slope: 5 to 25 percent
Drainage class: Well drained
Ecological site: Foothills

Riverwash

Composition: About 1 percent
Landscape: Valleys
Landform: Channels, streams
Position on landform: Toeslopes
Position on landform: Base slope
Slope: 0 to 3 percent
Shape (down/across): Concave/linear
Drainage class: Somewhat poorly drained
Flooding hazard: Frequent

206—Pinitos loam, 1 to 15 percent slopes**Map Unit Setting**

Major Land Resource Area: 36
Elevation: 7,000 to 7,600 feet (2,134 to 2,316 meters)
Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)
Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)
Frost-free period: 110 to 130 days

Map Unit Composition

Pinitos and similar soils: 85 percent
 Minor components: 15 percent

Component Descriptions**Pinitos soils**

Landscape: Uplands
Landform: Hills, mesas, cuestras, fan remnants
Position on landform: Shoulders
Position on landform: Side slope, side slope
Parent material: Fan alluvium derived from sandstone and shale
Slope: 1 to 15 percent
Aspect: East to west
Shape (down/across): Linear/linear
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)
Available water capacity: About 11.7 inches (high)
Shrink-swell potential: About 4.5 percent (moderate)
Runoff class: Medium
Calcium carbonate maximum: About 12 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: *Pinus edulis*-*Juniperus monosperma*/*Quercus gambelii*/*Bouteloua gracilis*

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: Indian ricegrass, blue grama, New Mexico Feathergrass, bottlebrush squirreltail, mountain big sagebrush, western wheatgrass

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 4 inches; loam

Bt1—4 to 10 inches; clay loam

Bt2—10 to 27 inches; clay loam

Btk—27 to 39 inches; clay loam

C—39 to 60 inches; clay loam

Minor Components

Sparham and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Occasional

Ecological site: Clayey

Hickman and similar soils

Composition: About 5 percent

Slope: 1 to 3 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Swale

Menefee and similar soils

Composition: About 5 percent

Slope: 5 to 35 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Shallow

207—Penistaja-Zia complex, 1 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,400 to 6,100 feet (1,646 to 1,859 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Penistaja and similar soils: 60 percent

Zia and similar soils: 25 percent

Minor components: 15 percent

Component Descriptions

Penistaja soils

Landscape: Uplands

Landform: Plateaus, alluvial fans, bajadas, cuestras, hills, mesas

Position on landform: Footslopes

Position on landform: Head slope, rise, side slope, nose slope

Parent material: Eolian deposits over alluvium derived from sandstone and shale

Slope: 1 to 5 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 8.6 inches (moderate)

Shrink-swell potential: About 2.9 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, spike muhly, western wheatgrass, bottlebrush
squirreltail, galleta, winterfat

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 3 inches; very fine sandy loam

Btk—3 to 29 inches; sandy clay loam

C—29 to 60 inches; fine sandy loam

Zia soils

Landscape: Uplands

Landform: Plateaus

Position on landform: Toeslopes

Position on landform: Side slope

Parent material: Eolian deposits over fan alluvium derived from sandstone

Slope: 1 to 8 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 8.3 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, spike muhly, western wheatgrass, bottlebrush
squirreltail, fourwing saltbush, oneseed juniper, winterfat

Land capability subclass (irrigated): 3e

Land capability subclass (nonirrigated): 6c

Typical Profile:

- A—0 to 5 inches; fine sandy loam
- C—5 to 60 inches; fine sandy loam

Minor Components

Clovis and similar soils

- Composition:* About 10 percent
- Slope:* 3 to 8 percent
- Drainage class:* Well drained
- Ecological site:* Loamy

Pinavetes and similar soils

- Composition:* About 5 percent
- Slope:* 5 to 15 percent
- Drainage class:* Excessively drained
- Ecological site:* Deep Sand

208—Sedillo very gravelly fine sandy loam, 25 to 55 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,100 to 6,500 feet (1,554 to 1,981 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Sedillo and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Sedillo soils**

Landscape: Uplands

Landform: Bajadas, fan remnants, stream terraces

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Fan alluvium derived from igneous and sedimentary rock

Slope: 25 to 55 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 3.6 inches (low)

Shrink-swell potential: About 1.7 percent (low)

Runoff class: High

Calcium carbonate maximum: About 25 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Gravelly

Potential native vegetation: blue grama, big sagebrush, black grama, hairy grama, needlegrass, New Mexico Feathergrass, oneseed juniper, sideoats grama, western wheatgrass, winterfat

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 2 inches; very gravelly fine sandy loam

Bt—2 to 8 inches; very gravelly sandy clay loam

Bk1—8 to 12 inches; very gravelly sandy loam

Bk2—12 to 60 inches; extremely gravelly sandy loam

Minor Components

Ildefonso and similar soils

Composition: About 5 percent

Slope: 15 to 35 percent

Drainage class: Well drained

Ecological site: Limy

Pinavetes and similar soils

Composition: About 5 percent

Slope: 5 to 15 percent

Drainage class: Excessively drained

Ecological site: Deep Sand

Rock outcrop

Composition: About 3 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

Zia and similar soils

Composition: About 2 percent

Slope: 3 to 6 percent

Drainage class: Well drained

Ecological site: Sandy

210—Ildefonso very stony loam, 25 to 70 percent slopes, rubbly

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,000 to 5,800 feet (1,524 to 1,768 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Ildefonso and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Ildefonso soils

Landscape: Uplands

Landform: Fan remnants, hills, mesas

Position on landform: Backslopes, side slopes

Parent material: Fan alluvium over colluvium derived from sandstone and shale

Slope: 25 to 70 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 4.7 inches (low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate maximum: About 20 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Limy

Potential native vegetation: blue grama, New Mexico Feathergrass, sideoats grama, twoneedle pinyon

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 3 inches; very stony loam

Bw—3 to 9 inches; very stony loam

Bk—9 to 60 inches; very stony loam

Minor Components

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

Rubble land

Composition: About 5 percent

Slope: 35 to 60 percent

Drainage class: Excessively drained

Prieta and similar soils

Composition: About 5 percent

Slope: 3 to 15 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Malpais

211—Zia-Clovis association, 2 to 10 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,500 to 6,400 feet (1,676 to 1,951 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Zia and similar soils: 45 percent
Clovis and similar soils: 30 percent
Minor components: 25 percent

Component Descriptions

Zia soils

Landscape: Uplands

Landform: Plateaus

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Eolian deposits derived from sandstone over fan alluvium derived from sandstone, eolian deposits and alluvium derived from sandstone and shale

Slope: 2 to 10 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 7.5 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Sandy

Potential native vegetation: blue grama, western wheatgrass, Indian ricegrass, black grama, oneseed juniper

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 5 inches; sandy loam

Bw—5 to 14 inches; sandy loam

C1—14 to 33 inches; sandy loam

C2—33 to 46 inches; sandy clay loam

C3—46 to 60 inches; sandy loam

Clovis soils

Landscape: Uplands

Landform: Fan remnants, plains

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Eolian deposits derived from sandstone over fan alluvium derived from sandstone and shale, eolian deposits and alluvium derived from sandstone and shale

Slope: 2 to 8 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 8.8 inches (moderate)

Shrink-swell potential: About 4.4 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: About 25 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, bottlebrush squirreltail

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 5 inches; fine sandy loam

B—5 to 60 inches; sandy clay loam

Minor Components

Penistaja and similar soils

Composition: About 15 percent

Slope: 2 to 7 percent

Drainage class: Well drained

Ecological site: Loamy

Pinavetes and similar soils

Composition: About 10 percent

Slope: 5 to 15 percent

Drainage class: Excessively drained

Ecological site: Deep Sand

213—Pinavetes-Rock outcrop complex, 15 to 35 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,600 to 6,100 feet (1,707 to 1,859 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Pinavetes and similar soils: 55 percent

Rock outcrop: 30 percent

Minor components: 15 percent

Component Descriptions

Pinavetes soils

Landscape: Uplands

Landform: Valley sides, dunes

Position on landform: Shoulders

Position on landform: Side slope

Parent material: Eolian deposits derived from sandstone

Slope: 15 to 35 percent

Aspect: East to west

Shape (down/across): Convex/convex

Depth class: Very deep

Drainage class: Excessively drained

Slowest permeability: 6.0 to 20 in./hr. (rapid)
Available water capacity: About 2.9 inches (very low)
Shrink-swell potential: About 1.5 percent (low)
Runoff class: Medium
Calcium carbonate maximum: About 5 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Deep Sand
Potential native vegetation: Indian ricegrass, blue grama, western wheatgrass, galleta, oneseed juniper, sand sagebrush, twoneedle pinyon
Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 7 inches; sand
 C—7 to 60 inches; stratified sand to loamy sand

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.
Landform: Escarpments, breaks
Aspect: East to west
Depth to restrictive feature: 0 inches to bedrock (lithic)
Land capability subclass (nonirrigated): 8s

Minor Components

Skyvillage and similar soils
Composition: About 10 percent
Slope: 8 to 25 percent
Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Ecological site: Shallow Sandstone

Zia and similar soils

Composition: About 5 percent
Slope: 3 to 6 percent
Drainage class: Well drained
Ecological site: Sandy

215—Ess-Rock outcrop complex, 5 to 45 percent slopes

Map Unit Setting

Major Land Resource Area: 48A
Elevation: 9,000 to 11,000 feet (2,743 to 3,353 meters)
Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)
Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)
Frost-free period: 60 to 90 days

Map Unit Composition

Ess and similar soils: 60 percent
 Rock outcrop: 30 percent
 Minor components: 10 percent

Component Descriptions

Ess soils

Landscape: Mountains

Landform: Mountain slopes, hills

Position on landform: Backslopes

Position on landform: Mountainflank, side slope

Parent material: Colluvium derived from rhyolite

Slope: 5 to 45 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 4.6 inches (low)

Shrink-swell potential: About 2.3 percent (low)

Runoff class: High

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 0 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Subalpine Grassland

Potential native vegetation: Arizona fescue, sedge, bottlebrush squirreltail, mountain muhly, muttongrass, prairie junegrass, western wheatgrass

Land capability subclass (nonirrigated): 7c

Typical Profile:

A1—0 to 7 inches; very cobbly sandy loam

A2—7 to 15 inches; very cobbly sandy loam

Bt—15 to 29 inches; very cobbly sandy clay loam

C—29 to 60 inches; very cobbly loam

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Mountains

Position on landform: Mountainflank, mountaintop

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Minor Components

Calaveras and similar soils

Composition: About 10 percent

Landform: Mountain slopes

Position on landform: Mountainflank

Slope: 35 to 60 percent

Aspect: East to west

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

217—Witt loam, 1 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,200 to 6,000 feet (1,585 to 1,829 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Witt and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Witt soils

Landscape: Uplands

Landform: Mesas, fan remnants, bajadas

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Eolian deposits derived from sandstone over fan alluvium derived from basalt, eolian deposits and alluvium derived from sandstone and shale

Slope: 1 to 8 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 10.0 inches (high)

Shrink-swell potential: About 1.8 percent (low)

Runoff class: Medium

Calcium carbonate maximum: About 20 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, spike muhly, fourwing saltbush, galleta

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 2 inches; loam

Bt—2 to 9 inches; loam

Bk—9 to 60 inches; stratified very fine sandy loam to loam

Minor Components

Penistaja and similar soils

Composition: About 5 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

Harvey and similar soils

Composition: About 5 percent*Slope:* 5 to 10 percent*Drainage class:* Well drained*Ecological site:* Limy

Ildefonso and similar soils

Composition: About 5 percent*Slope:* 15 to 35 percent*Drainage class:* Well drained*Ecological site:* Limy**218—Ildefonso very cobbly loam, 1 to 15 percent slopes****Map Unit Setting***Major Land Resource Area:* 36*Elevation:* 5,200 to 5,800 feet (1,585 to 1,768 meters)*Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 52 to 54 degrees F. (11.1 to 12.2 degrees C.)*Frost-free period:* 120 to 140 days**Map Unit Composition**

Ildefonso and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Ildefonso soils***Landscape:* Uplands*Landform:* Hills, fan remnants, mesas*Position on landform:* Footslopes*Position on landform:* Side slope*Parent material:* Fan alluvium over colluvium derived from sandstone and shale*Slope:* 1 to 15 percent*Aspect:* East to west*Shape (down/across):* Linear/linear*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* 0.6 to 2.0 in./hr. (moderate)*Available water capacity:* About 3.8 inches (low)*Shrink-swell potential:* About 1.7 percent (low)*Runoff class:* Low*Calcium carbonate maximum:* About 20 percent*Gypsum maximum:* None*Salinity maximum:* About 4 mmhos/cm (very slightly saline)*Sodium adsorption ratio maximum:* About 0 (nonsodic)*Ecological site:* Limy*Potential native vegetation:* thickspike wheatgrass, western wheatgrass, New Mexico

Feathergrass, blue grama, hairy grama, winterfat

Land capability subclass (nonirrigated): 7s

Typical Profile:

- A—0 to 4 inches; very cobbly loam
- B—4 to 8 inches; very cobbly loam
- B—8 to 60 inches; very cobbly sandy loam

Minor Components

Pastura and similar soils

- Composition:* About 5 percent
- Slope:* 1 to 4 percent
- Depth to restrictive feature:* 7 to 20 inches to petrocalcic
- Drainage class:* Well drained
- Ecological site:* Limy

Prieta and similar soils

- Composition:* About 5 percent
- Slope:* 3 to 15 percent
- Depth to restrictive feature:* 10 to 20 inches to bedrock (lithic)
- Drainage class:* Well drained
- Ecological site:* Malpais

Rock outcrop

- Composition:* About 3 percent
- Depth to restrictive feature:* 0 inches to bedrock (lithic)

Witt and similar soils

- Composition:* About 2 percent
- Slope:* 1 to 8 percent
- Drainage class:* Well drained
- Ecological site:* Loamy

220—Rock outcrop-Vessilla-Menefee complex, 30 to 40 percent slopes

Map Unit Setting

- Major Land Resource Area:* 36
- Elevation:* 6,100 to 7,200 feet (1,859 to 2,195 meters)
- Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)
- Mean annual air temperature:* 48 to 52 degrees F. (8.9 to 11.1 degrees C.)
- Frost-free period:* 110 to 130 days

Map Unit Composition

- Rock outcrop: 40 percent
- Vessilla and similar soils: 30 percent
- Menefee and similar soils: 20 percent
- Minor components: 10 percent

Component Descriptions

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Escarpments, breaks

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Vessilla soils

Landscape: Uplands

Landform: Mesas, hills, breaks, ridges

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Eolian deposits over fan alluvium over residuum weathered from sandstone

Slope: 30 to 40 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 1.2 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very high

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: *Pinus edulis*/*Rhus trilobata*/*Bouteloua gracilis*

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: Indian ricegrass, blue grama, mountain big sagebrush, oak, galleta, sideoats grama

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 2 inches; sandy loam

C—2 to 10 inches; sandy loam

R—10 to 60 inches; bedrock

Menefee soils

Landscape: Uplands

Landform: Mountainsides, mesas, hillslopes

Position on landform: Shoulders

Position on landform: Nose slope

Parent material: Colluvium over residuum weathered from shale

Slope: 30 to 40 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 8 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 2.0 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Very high

Calcium carbonate maximum: About 5 percent

Gypsum maximum: About 1 percent

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: *Pinus edulis*-*Juniperus monosperma*/*Quercus gambelii*/*Bouteloua gracilis*

Potential native vegetation:

Common trees: oneseed juniper, Rocky Mountain juniper, twoneedle pinyon

Other plants: blue grama, galleta, Gambel oak, big sagebrush, sideoats grama

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 2 inches; clay loam

C—2 to 10 inches; clay loam

2Cr—10 to 60 inches; bedrock

Minor Components

Badland

Composition: About 5 percent

Slope: 5 to 75 percent

Depth to restrictive feature: 0 inches to bedrock (paralithic)

Rubble land

Composition: About 5 percent

Slope: 35 to 60 percent

Drainage class: Excessively drained

226—Galisteo loam, moderately saline, sodic, 1 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,700 to 6,200 feet (1,737 to 1,890 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Galisteo, moderately saline, sodic and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Galisteo, moderately saline, sodic soils

Landscape: Valleys

Landform: Alluvial fans, stream terraces

Position on landform: Toeslopes

Position on landform: Rise

Parent material: Stream alluvium derived from sandstone and shale

Slope: 1 to 3 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)
Available water capacity: About 11.5 inches (high)
Shrink-swell potential: About 4.5 percent (moderate)
Runoff class: Low
Calcium carbonate maximum: About 10 percent
Gypsum maximum: None
Salinity maximum: About 16 mmhos/cm (moderately saline)
Sodium adsorption ratio maximum: About 20 (moderately sodic)
Ecological site: Salty Bottomland
Potential native vegetation: alkali sacaton, western wheatgrass, galleta, fourwing saltbush, greasewood
Land capability subclass (nonirrigated): 6c

Typical Profile:

Ap—0 to 10 inches; loam
C—10 to 60 inches; silty clay loam

Minor Components

Zia and similar soils

Composition: About 5 percent
Slope: 1 to 3 percent
Drainage class: Well drained
Ecological site: Sandy

El Rancho and similar soils

Composition: About 5 percent
Slope: 0 to 2 percent
Drainage class: Well drained
Ecological site: Loamy

Ildefonso and similar soils

Composition: About 5 percent
Slope: 1 to 15 percent
Drainage class: Well drained
Ecological site: Limy

227—Hagerman-Bond association, 1 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 36
Elevation: 5,700 to 6,000 feet (1,737 to 1,829 meters)
Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)
Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)
Frost-free period: 120 to 140 days

Map Unit Composition

Hagerman and similar soils: 65 percent
Bond and similar soils: 20 percent
Minor components: 15 percent

Component Descriptions

Hagerman soils

Landscape: Uplands

Landform: Mesas, hills, ridges

Position on landform: Shoulders

Position on landform: Crest

Parent material: Eolian deposits over slope alluvium derived from sandstone

Slope: 1 to 5 percent

Aspect: East to west

Shape (down/across): Linear/linear

Surface fragments: About 5 percent subangular channers

Depth class: Moderately deep

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 6.5 inches (moderate)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, spike muhly, fourwing saltbush, galleta, sand dropseed

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 4 inches; fine sandy loam

Bt—4 to 34 inches; clay loam

2R—34 to 60 inches; bedrock

Bond soils

Landscape: Uplands

Landform: Ridges, cuestras, mesas, hills

Position on landform: Summits

Position on landform: Crest

Parent material: Eolian deposits over slope alluvium derived from sandstone

Slope: 1 to 8 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 1.5 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Very high

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Shallow Sandstone

Potential native vegetation: sideoats grama, blue grama, little bluestem, Indian ricegrass, galleta

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 4 inches; loamy fine sand

Bt—4 to 12 inches; sandy clay loam

R—12 to 60 inches; bedrock

Minor Components

Penistaja and similar soils

Composition: About 10 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

228—Winona very channery fine sandy loam, 8 to 25 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,900 to 6,300 feet (1,798 to 1,920 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Winona and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Winona soils

Landscape: Uplands

Landform: Plateaus, hills

Position on landform: Shoulders

Position on landform: Nose slope, head slope, nose slope, side slope

Parent material: Residuum weathered from travertine

Slope: 8 to 25 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 5 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 1.1 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate maximum: About 50 percent

Gypsum maximum: None

Salinity maximum: About 8 mmhos/cm (slightly saline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Shallow Sandstone

Potential native vegetation: sideoats grama, blue grama, little bluestem, needlegrass, juniper, muhly, winterfat

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 2 inches; very channery fine sandy loam

Bk—2 to 13 inches; very channery loam

R—13 to 60 inches; bedrock

Minor Components

Rock outcrop

Composition: About 15 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

230—Skyvillage-Sandoval-Rock outcrop complex, 3 to 20 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,800 to 6,400 feet (1,768 to 1,951 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Skyvillage and similar soils: 35 percent

Sandoval and similar soils: 25 percent

Rock outcrop: 20 percent

Minor components: 20 percent

Component Descriptions

Skyvillage soils

Landscape: Uplands

Landform: Structural benches, cuestras, ridges, breaks, mesas, hills

Position on landform: Shoulders

Position on landform: Side slope, nose slope, head slope

Parent material: Slope alluvium derived from sandstone

Slope: 3 to 20 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 1.3 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: High

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Shallow Sandstone

Potential native vegetation: sideoats grama, blue grama, little bluestem, Indian ricegrass, galleta

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 6 inches; sandy loam

C—6 to 11 inches; sandy loam

2R—11 to 60 inches; bedrock

Sandoval soils

Landscape: Uplands

Landform: Hills, ridges

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Slope alluvium derived from shale

Slope: 3 to 20 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 2.0 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate maximum: About 10 percent

Gypsum maximum: About 10 percent

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Shallow

Potential native vegetation: sideoats grama, New Mexico Feathergrass, cane bluestem, little bluestem, galleta

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 2 inches; clay loam

C—2 to 10 inches; clay loam

Cr—10 to 60 inches; bedrock

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Escarpments, breaks

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Minor Components

Penistaja and similar soils

Composition: About 10 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

Querencia and similar soils

Composition: About 10 percent

Slope: 1 to 8 percent

Drainage class: Well drained

Ecological site: Loamy

231—Querencia loam, 1 to 8 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 6,200 to 6,900 feet (1,890 to 2,103 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Querencia and similar soils: 85 percent

Minor components: 15 percent



Figure 7.—Typical landscape of Querencia loam, 1 to 8 percent slopes.

Component Descriptions

Querencia soils

Landscape: Valleys

Landform: Valley sides, stream terraces, alluvial fans

Position on landform: Toeslopes

Position on landform: Rise

Parent material: Fan alluvium over colluvium derived from sandstone and shale

Slope: 1 to 8 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 10.0 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, spike muhly, bottlebrush
squirreltail, fourwing saltbush, needlegrass, winterfat

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 3 inches; loam

Bw—3 to 21 inches; loam

Bk—21 to 60 inches; loam

Minor Components

Sandoval and similar soils

Composition: About 5 percent

Slope: 3 to 20 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Shallow

Sparank and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Well drained

Flooding hazard: Occasional

Ecological site: Clayey Bottomland

San Mateo and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Swale

234—Querencia-Zia complex, 2 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,800 to 6,900 feet (1,768 to 2,103 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Querencia and similar soils: 60 percent

Zia and similar soils: 20 percent

Minor components: 20 percent

Component Descriptions

Querencia soils

Landscape: Valleys

Landform: Stream terraces, valley sides, alluvial fans

Position on landform: Toeslopes

Position on landform: Rise

Parent material: Fan alluvium over colluvium derived from sandstone and shale

Slope: 2 to 8 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 9.3 inches (high)

Shrink-swell potential: About 2.7 percent (low)

Runoff class: Medium

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, spike muhly, bottlebrush squirreltail, fourwing saltbush, needlegrass, winterfat

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 3 inches; fine sandy loam

Bw—3 to 25 inches; loam

Bk—25 to 60 inches; stratified loam to fine sandy loam

Zia soils

Landscape: Valleys

Landform: Alluvial fans

Position on landform: Toeslopes

Position on landform: Rise

Parent material: Eolian deposits over fan alluvium derived from sandstone

Slope: 2 to 8 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 7.1 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 15 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Sandy

Potential native vegetation: blue grama, western wheatgrass, Indian ricegrass, black grama, oneseed juniper

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 11 inches; sandy loam

C—11 to 60 inches; sandy loam

Minor Components

Penistaja and similar soils

Composition: About 10 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

San Mateo and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Swale

Sandoval and similar soils

Composition: About 5 percent

Slope: 3 to 20 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Shallow

235—Sandoval fine sandy loam, 3 to 15 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,800 to 6,400 feet (1,768 to 1,951 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Sandoval and similar soils: 85 percent

Minor components: 15 percent



Figure 8.—Typical landscape of Sandoval fine sandy loam, 3 to 15 percent slopes.

Component Descriptions

Sandoval soils

Landscape: Uplands

Landform: Hills, ridges

Position on landform: Shoulders

Position on landform: Side slope

Parent material: Slope alluvium derived from shale

Slope: 3 to 15 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 3.7 inches (low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Very high

Calcium carbonate maximum: About 10 percent

Gypsum maximum: About 10 percent

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 13 (moderately sodic)

Ecological site: Shallow

Potential native vegetation: sideoats grama, New Mexico Feathergrass, cane bluestem, little bluestem, galleta

Land capability subclass (nonirrigated): 7s

Typical Profile:

- A—0 to 2 inches; fine sandy loam
- C1—2 to 16 inches; clay loam
- C2—16 to 19 inches; clay loam
- Cr—19 to 60 inches; bedrock

Minor Components

Querencia and similar soils

- Composition:* About 5 percent
- Slope:* 1 to 8 percent
- Drainage class:* Well drained
- Ecological site:* Loamy

San Mateo and similar soils

- Composition:* About 5 percent
- Slope:* 0 to 3 percent
- Drainage class:* Well drained
- Flooding hazard:* Rare
- Ecological site:* Swale

Badland

- Composition:* About 5 percent
- Slope:* 5 to 75 percent
- Depth to restrictive feature:* 0 inches to bedrock (paralithic)

236—Sparank clay loam, moderately saline, sodic, 0 to 1 percent slopes

Map Unit Setting

- Major Land Resource Area:* 36
- Elevation:* 5,800 to 6,400 feet (1,768 to 1,951 meters)
- Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)
- Mean annual air temperature:* 52 to 54 degrees F. (11.1 to 12.2 degrees C.)
- Frost-free period:* 120 to 140 days

Map Unit Composition

- Sparank, moderately saline, sodic and similar soils: 85 percent
- Minor components: 15 percent

Component Descriptions**Sparank, moderately saline, sodic soils**

- Landscape:* Valleys
- Landform:* Stream terraces, alluvial fans, valley sides, valley floors, flood plains
- Position on landform:* Toeslopes
- Position on landform:* Rise
- Parent material:* Stream alluvium derived from sandstone and shale
- Slope:* 0 to 1 percent
 - Aspect:* East to west
 - Shape (down/across):* Linear/linear
- Depth class:* Very deep
- Drainage class:* Well drained
- Slowest permeability:* .06 to 0.2 in./hr. (slow)
- Available water capacity:* About 10.2 inches (high)

Shrink-swell potential: About 6.6 percent (high)

Flooding hazard: Occasional

Runoff class: Medium

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 16 mmhos/cm (moderately saline)

Sodium adsorption ratio maximum: About 30 (strongly sodic)

Ecological site: Salty Bottomland

Potential native vegetation: alkali sacaton, western wheatgrass, galleta, fourwing saltbush, greasewood

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 2 inches; clay loam

C1—2 to 10 inches; silty clay

C2—10 to 24 inches; silty clay

C3—24 to 40 inches; silty clay loam

C4—40 to 44 inches; silty clay

C5—44 to 60 inches; silty clay

Minor Components

Camino and similar soils

Composition: About 10 percent

Slope: 1 to 6 percent

Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Clayey

San Mateo and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Swale

237—Sparank silty clay loam, 0 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,500 to 6,400 feet (1,676 to 1,951 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Sparank and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Sparank soils

Landscape: Valleys

Landform: Valley sides, valley floors, alluvial fans, flood plains, stream terraces

Position on landform: Toeslopes

Position on landform: Rise

Parent material: Stream alluvium derived from sandstone and shale

Slope: 0 to 3 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 11.8 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Flooding hazard: Occasional

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 10 (slightly sodic)

Ecological site: Clayey Bottomland

Potential native vegetation: western wheatgrass, alkali sacaton, blue grama, fourwing saltbush, galleta, obtuse panicgrass

Land capability subclass (irrigated): 2e

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 4 inches; silty clay loam

C—4 to 60 inches; silty clay loam

Minor Components

Camino and similar soils

Composition: About 10 percent

Slope: 1 to 6 percent

Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Clayey

San Mateo and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Swale

240—Penistaja-Hagerman association, 1 to 5 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,000 to 6,400 feet (1,829 to 1,951 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Penistaja and similar soils: 45 percent
 Hagerman and similar soils: 35 percent
 Minor components: 20 percent

Component Descriptions

Penistaja soils

Landscape: Uplands
Landform: Plateaus, mesas, hills, cuestras, alluvial fans, bajadas
Position on landform: Footslopes
Position on landform: Rise, side slope, nose slope, head slope
Parent material: Eolian material and slope alluvium derived from sandstone and shale
Slope: 1 to 5 percent
Aspect: East to west
Shape (down/across): Linear/linear
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)
Available water capacity: About 9.3 inches (high)
Shrink-swell potential: About 2.8 percent (low)
Runoff class: Low
Calcium carbonate maximum: About 15 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 2 (slightly sodic)
Ecological site: Loamy
Potential native vegetation: blue grama, spike muhly, western wheatgrass, bottlebrush squirreltail, galleta, winterfat
Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 5 inches; fine sandy loam
 Bt—5 to 14 inches; clay loam
 Btk—14 to 29 inches; sandy clay loam
 C—29 to 60 inches; stratified sandy clay loam to fine sandy loam to loam

Hagerman soils

Landscape: Uplands
Landform: Mesas, hills, ridges
Position on landform: Shoulders
Position on landform: Crest
Parent material: Eolian material and slope alluvium derived from sandstone and shale
Slope: 1 to 5 percent
Aspect: East to west
Shape (down/across): Convex/linear
Depth class: Moderately deep
Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)
Available water capacity: About 4.7 inches (low)
Shrink-swell potential: About 4.5 percent (moderate)
Runoff class: Medium
Calcium carbonate maximum: About 10 percent
Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, spike muhly, fourwing saltbush, galleta, sand dropseed

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 2 inches; fine sandy loam

Bt—2 to 9 inches; clay loam

Btk—9 to 24 inches; clay loam

2R—24 to 60 inches; bedrock

Minor Components

Skyvillage and similar soils

Composition: About 10 percent

Slope: 8 to 25 percent

Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Shallow Sandstone

Rock outcrop

Composition: About 10 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

250—Pinavetes loamy fine sand, 5 to 15 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,200 to 5,700 feet (1,585 to 1,737 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Pinavetes and similar soils: 90 percent

Minor components: 10 percent

Component Descriptions

Pinavetes soils

Landscape: Uplands

Landform: Dunes, valley sides

Position on landform: Shoulders

Position on landform: Side slope

Parent material: Eolian deposits derived from sandstone

Slope: 5 to 15 percent

Aspect: East to west

Shape (down/across): Convex/convex

Depth class: Very deep

Drainage class: Excessively drained

Slowest permeability: 6.0 to 20 in./hr. (rapid)

Available water capacity: About 4.2 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Deep Sand

Potential native vegetation: Indian ricegrass, blue grama, sand sagebrush

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 4 inches; loamy fine sand

C—4 to 60 inches; loamy sand

Minor Components

Zia and similar soils

Composition: About 10 percent

Slope: 8 to 25 percent

Drainage class: Well drained

Ecological site: Sandy

262—Pastura loam, 1 to 4 percent slopes

Map Unit Setting

Major Land Resource Area: 70

Elevation: 5,400 to 5,800 feet (1,646 to 1,768 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Pastura and similar soils: 90 percent

Minor components: 10 percent

Component Descriptions

Pastura soils

Landscape: Uplands

Landform: Cuestas, mesas

Position on landform: Shoulders

Position on landform: Tread

Parent material: Eolian materials and alluvium derived from sandstone and shale

Slope: 1 to 4 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 5 to 20 inches to petrocalcic

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 1.9 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: About 15 percent

Gypsum maximum: About 1 percent

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Shallow Limy Savannah

Potential native vegetation: black grama, blue grama, sideoats grama, needle and thread, winterfat, dropseed, galleta, juniper, muttongrass, bastardsage, Menodora

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; loam

Bw—3 to 10 inches; gravelly loam

Bk—10 to 14 inches; gravelly loam

Bkm—14 to 60 inches; cemented material

Minor Components

Ildefonso and similar soils

Composition: About 5 percent

Slope: 1 to 15 percent

Drainage class: Well drained

Ecological site: Limy

Harvey and similar soils

Composition: About 5 percent

Slope: 10 to 15 percent

Drainage class: Well drained

Ecological site: Limy

270—Blancot-Councilor-Tsosie association, 0 to 5 percent slopes

Map Unit Setting

Major Land Resource Area: 37

Elevation: 6,600 to 7,000 feet (2,012 to 2,134 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Blancot and similar soils: 40 percent

Councilor and similar soils: 30 percent

Tsosie and similar soils: 25 percent

Minor components: 5 percent

Component Descriptions

Blancot soils

Landscape: Uplands

Landform: Ridges, valley sides

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Fan alluvium derived from sandstone and shale

Slope: 3 to 5 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)
Available water capacity: About 8.1 inches (moderate)
Shrink-swell potential: About 2.4 percent (low)
Runoff class: Low
Calcium carbonate maximum: About 15 percent
Gypsum maximum: None
Salinity maximum: About 4 mmhos/cm (very slightly saline)
Sodium adsorption ratio maximum: About 13 (moderately sodic)
Ecological site: Loamy
Potential native vegetation: Indian ricegrass, blue grama, galleta, big sagebrush, bottlebrush squirreltail, sand dropseed, western wheatgrass
Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 2 inches; fine sandy loam
 Bt1—2 to 12 inches; sandy clay loam
 B2—12 to 21 inches; clay loam
 C—21 to 60 inches; sandy loam

Councilor soils

Landscape: Uplands
Landform: Fan remnants, valley sides, valley floors, stream terraces
Position on landform: Footslopes
Position on landform: Tread
Parent material: Eolian deposits over stream alluvium derived from sandstone and shale
Slope: 1 to 3 percent
Aspect: East to west
Shape (down/across): Linear/linear
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)
Available water capacity: About 7.1 inches (moderate)
Shrink-swell potential: About 1.5 percent (low)
Runoff class: Very low
Calcium carbonate maximum: About 10 percent
Gypsum maximum: None
Salinity maximum: About 4 mmhos/cm (very slightly saline)
Sodium adsorption ratio maximum: About 5 (slightly sodic)
Ecological site: Sandy
Potential native vegetation: Indian ricegrass, blue grama, dropseed, New Mexico Feathergrass, big sagebrush, galleta, mormon tea, needle and thread, winterfat
Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 2 inches; fine sandy loam
 C—2 to 60 inches; sandy loam

Tsosié soils

Landscape: Uplands
Landform: Alluvial fans, stream terraces
Position on landform: Footslopes
Position on landform: Tread, rise
Parent material: Stream alluvium derived from sandstone and shale

Slope: 0 to 3 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 9.7 inches (high)

Shrink-swell potential: About 3.2 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 8 mmhos/cm (slightly saline)

Sodium adsorption ratio maximum: About 10 (slightly sodic)

Ecological site: Salt Flats

Potential native vegetation: alkali sacaton, fourwing saltbush, galleta, greasewood, shadscale saltbush, big sagebrush, inland saltgrass, western wheatgrass

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 2 inches; clay loam

C1—2 to 10 inches; loam

C2—10 to 20 inches; clay loam

C3—20 to 26 inches; clay loam

C4—26 to 36 inches; clay loam

C5—36 to 44 inches; sandy loam

C6—44 to 55 inches; sandy loam

C7—55 to 60 inches; sandy loam

Minor Components

Badland

Composition: About 5 percent

Slope: 5 to 75 percent

Depth to restrictive feature: 0 inches to bedrock (paralithic)

281—Carjo loam, 1 to 9 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 7,000 to 8,000 feet (2,134 to 2,438 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Carjo and similar soils: 90 percent

Minor components: 10 percent

Component Descriptions

Carjo soils

Landscape: Uplands

Landform: Ridges, hills, mesas

Position on landform: Shoulders

Position on landform: Side slope

Parent material: Residuum weathered from tuff

Slope: 1 to 9 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Moderately deep

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 4.2 inches (low)

Shrink-swell potential: About 4.9 percent (moderate)

Runoff class: High

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus ponderosa/Quercus gambelii

Potential native vegetation:

Common trees: ponderosa pine

Other plants: Arizona fescue, blue grama, big bluestem, little bluestem, twoneedle pinyon, wavyleaf oak

Land capability subclass (nonirrigated): 5c

Typical Profile:

A—0 to 4 inches; loam

BA—4 to 12 inches; clay loam

Bt—12 to 20 inches; clay

C—20 to 25 inches; very fine sandy loam

2R—25 to 60 inches; bedrock

Minor Components

Frijoles and similar soils

Composition: About 5 percent

Slope: 1 to 8 percent

Drainage class: Well drained

Ecological site: ponderosa forest

Nyjack and similar soils

Composition: About 3 percent

Slope: 1 to 5 percent

Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: ponderosa forest

Tocal and similar soils

Composition: About 2 percent

Slope: 3 to 8 percent

Depth to restrictive feature: 8 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

282—Total very fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 7,000 to 8,000 feet (2,134 to 2,438 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Total and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Total soils

Landscape: Mountains

Landform: Plateaus

Position on landform: Shoulders

Position on landform: Mountaintop

Parent material: Eolian deposits derived from sandstone over residuum weathered from tuff

Slope: 3 to 8 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 8 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 2.5 inches (very low)

Shrink-swell potential: About 5.1 percent (moderate)

Runoff class: Very high

Calcium carbonate maximum: About 1 percent

Gypsum maximum: About 1 percent

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Potential native vegetation:

Common trees: ponderosa pine, white fir, Douglas-fir

Other plants: bottlebrush squirreltail, Gambel oak, little bluestem, mountain muhly, true mountain mahogany

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 5 inches; very fine sandy loam

Bt1—5 to 8 inches; clay loam

Bt2—8 to 11 inches; clay

2Bt3—11 to 14 inches; silt loam

2Cr—14 to 60 inches; bedrock

Minor Components

Alanos and similar soils

Composition: About 10 percent

Slope: 20 to 40 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Mirand and similar soils

Composition: About 5 percent

Slope: 5 to 30 percent

Drainage class: Well drained

Ecological site: Pinus ponderosa/Quercus gambelii

283—Mirand-Alanos complex, 5 to 40 percent slopes**Map Unit Setting**

Major Land Resource Area: 48A

Elevation: 8,500 to 9,500 feet (2,591 to 2,896 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Mirand and similar soils: 45 percent

Alanos and similar soils: 30 percent

Minor components: 25 percent

Component Descriptions**Mirand soils**

Landscape: Mountains

Landform: Canyons, mountain slopes

Position on landform: Backslopes

Position on landform: Mountainflank

Parent material: Colluvium derived from volcanic rock

Slope: 5 to 30 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .001 to .06 in./hr. (very slow)

Available water capacity: About 10.8 inches (high)

Shrink-swell potential: About 5.6 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus ponderosa/Quercus gambelii

Potential native vegetation:

Common trees: ponderosa pine

Other plants: Arizona fescue, mountain muhly, muttongrass, California brome,

Gambel oak, prairie junegrass

Land capability subclass (nonirrigated): 7c

Typical Profile:

Oi—0 to 2 inches; slightly decomposed plant material
A—2 to 6 inches; loam
Bt1—6 to 11 inches; clay loam
Bt2—11 to 17 inches; gravelly clay loam
Bt3—17 to 27 inches; clay loam
Bt4—27 to 47 inches; clay
2Bt5—47 to 60 inches; clay loam

Alanos soils

Landscape: Mountains

Landform: Mountain slopes, hillsides

Position on landform: Backslopes

Position on landform: Mountainflank

Parent material: Slope alluvium over colluvium derived from volcanic rock

Slope: 5 to 40 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 4.7 inches (low)

Shrink-swell potential: About 6.1 percent (high)

Runoff class: High

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Potential native vegetation:

Common trees: ponderosa pine, Douglas-fir

Other plants: Arizona fescue, blue grama, California brome, pine dropseed,

Gambel oak, lupine

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 6 inches; cobbly loam
E—6 to 9 inches; cobbly loam
Bt1—9 to 30 inches; extremely gravelly clay loam
Bt2—30 to 60 inches; very gravelly clay

Minor Components

Calaveras and similar soils

Composition: About 10 percent

Slope: 35 to 60 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Palon and similar soils

Composition: About 5 percent

Slope: 35 to 65 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Pavo and similar soils

Composition: About 5 percent
Slope: 5 to 20 percent
Drainage class: Well drained
Ecological site: Mountain Loam

Rubble land

Composition: About 5 percent
Slope: 35 to 60 percent
Drainage class: Excessively drained

290—Alanos-Rock outcrop complex, 20 to 40 percent slopes

Map Unit Setting

Major Land Resource Area: 48A
Elevation: 7,800 to 8,500 feet (2,377 to 2,591 meters)
Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)
Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)
Frost-free period: 60 to 90 days

Map Unit Composition

Alanos and similar soils: 50 percent
 Rock outcrop: 30 percent
 Minor components: 20 percent

Component Descriptions

Alanos soils

Landscape: Mountains
Landform: Hillsides, mountain slopes
Position on landform: Backslopes
Position on landform: Mountainflank
Parent material: Slope alluvium over colluvium derived from tuff
Slope: 20 to 40 percent
Aspect: East to west
Shape (down/across): Linear/linear
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: .06 to 0.2 in./hr. (slow)
Available water capacity: About 4.3 inches (low)
Shrink-swell potential: About 6.7 percent (high)
Runoff class: Very high
Calcium carbonate maximum: None
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia
Potential native vegetation:
 Common trees: ponderosa pine, Douglas-fir
 Other plants: Arizona fescue, California brome, blue grama, pine dropseed, Gambel oak, lupine
Land capability subclass (nonirrigated): 7c

Typical Profile:

- A—0 to 4 inches; loam
- E—4 to 9 inches; loam
- BE—9 to 18 inches; very gravelly loam
- Bt1—18 to 26 inches; extremely gravelly clay
- Bt2—26 to 60 inches; extremely gravelly clay

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Ridges

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Minor Components

Alanos and similar soils

Composition: About 10 percent

Slope: 5 to 40 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Tocal and similar soils

Composition: About 5 percent

Slope: 3 to 8 percent

Depth to restrictive feature: 8 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Carjo and similar soils

Composition: About 5 percent

Slope: 1 to 9 percent

Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Pinus ponderosa/Quercus gambelii

300—Waumac-Bamac association, 1 to 7 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 5,400 to 6,200 feet (1,646 to 1,890 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Waumac and similar soils: 50 percent

Bamac and similar soils: 35 percent

Minor components: 15 percent

Component Descriptions

Waumac soils

Landscape: Valleys

Landform: Valley floors

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Fan alluvium derived from igneous and sedimentary rock

Slope: 1 to 7 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 6.9 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very low

Calcium carbonate maximum: About 15 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Sandy

Potential native vegetation: blue grama, western wheatgrass, Indian ricegrass, black grama, oneseed juniper, twoneedle pinyon

Land capability subclass (nonirrigated): 6s

Typical Profile:

A—0 to 3 inches; loamy sand

C1—3 to 31 inches; fine sandy loam

C2—31 to 60 inches; gravelly fine sandy loam

Bamac soils

Landscape: Valleys

Landform: Fan remnants, fan remnants, ridges, hills

Position on landform: Footslopes

Position on landform: Side slope, head slope

Parent material: Slope alluvium derived from igneous and sedimentary rock

Slope: 1 to 7 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Excessively drained

Slowest permeability: 6.0 to 20 in./hr. (rapid)

Available water capacity: About 1.9 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Foothills

Potential native vegetation: blue grama, western wheatgrass, Indian ricegrass, black grama

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 6 inches; gravelly loamy sand

C—6 to 60 inches; stratified very gravelly coarse sand to very gravelly loamy sand

Minor Components

Riverwash

Composition: About 10 percent*Landscape:* Valleys*Landform:* Streams, channels*Position on landform:* Toeslopes*Position on landform:* Base slope*Slope:* 0 to 3 percent*Shape (down/across):* Concave/linear*Drainage class:* Somewhat poorly drained*Flooding hazard:* Frequent

Royosa and similar soils

Composition: About 5 percent*Slope:* 1 to 8 percent*Drainage class:* Somewhat excessively drained*Ecological site:* Deep Sand**301—Vastine-Jarola silt loams, 0 to 5 percent slopes****Map Unit Setting***Major Land Resource Area:* 48A*Elevation:* 8,400 to 8,600 feet (2,560 to 2,621 meters)*Mean annual precipitation:* 20 to 25 inches (508 to 635 millimeters)*Mean annual air temperature:* 42 to 45 degrees F. (5.6 to 7.2 degrees C.)*Frost-free period:* 60 to 90 days**Map Unit Composition**

Vastine and similar soils: 45 percent

Jarola and similar soils: 40 percent

Minor components: 15 percent

Component Descriptions**Vastine soils***Landscape:* Valleys*Landform:* Stream terraces, flood plains*Position on landform:* Toeslopes*Position on landform:* Base slope*Parent material:* Stream alluvium derived from igneous and sedimentary rock*Slope:* 0 to 3 percent*Aspect:* East to west*Shape (down/across):* Concave/linear*Depth class:* Very deep*Drainage class:* Poorly drained*Slowest permeability:* 0.6 to 2.0 in./hr. (moderate)*Available water capacity:* About 5.3 inches (low)*Shrink-swell potential:* About 2.6 percent (low)*Flooding hazard:* Rare

Seasonal high water table depth: About 12 to 36 inches

Runoff class: High

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Mountain Loam

Potential native vegetation: tufted hairgrass, bluegrass, sedge, Canada wildrye,
Rocky Mountain iris, bluejoint, clover, shrubby cinquefoil, western wheatgrass

Land capability subclass (nonirrigated): 7c

Typical Profile:

A1—0 to 4 inches; silt loam

A2—4 to 11 inches; loam

Bw—11 to 24 inches; loam

2C—24 to 60 inches; very gravelly loamy sand

Jarola soils

Landscape: Mountains

Landform: Stream terraces

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from igneous rock

Slope: 1 to 5 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Poorly drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 7.7 inches (moderate)

Shrink-swell potential: About 3.6 percent (moderate)

Flooding hazard: Rare

Seasonal high water table depth: About 12 to 36 inches

Runoff class: High

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Mountain Meadow

Potential native vegetation: tufted hairgrass, bluegrass, sedge, Canada wildrye,
Rocky Mountain iris, clover, reedgrass, shrubby cinquefoil, western wheatgrass

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 9 inches; silt loam

E—9 to 11 inches; silt loam

Bt1—11 to 17 inches; silty clay loam

Bt2—17 to 21 inches; clay loam

2C1—21 to 42 inches; gravelly sandy clay loam

2C2—42 to 60 inches; very gravelly sandy loam

Minor Components

Organic soils and similar soils

Composition: About 10 percent

Landscape: Mountains

Landform: Marshes

Position on landform: Toeslopes

Position on landform: Base slope

Slope: 0 to 3 percent

Aspect: East to west

Shape (down/across): Concave/concave

Drainage class: Poorly drained

Flooding hazard: Frequent

Tranquilar and similar soils

Composition: About 5 percent

Slope: 1 to 8 percent

Drainage class: Somewhat poorly drained

Ecological site: Mountain Grassland

302—Tranquilar-Jarmillo complex, 1 to 8 percent slopes**Map Unit Setting**

Major Land Resource Area: 48A

Elevation: 8,500 to 8,800 feet (2,591 to 2,682 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Tranquilar and similar soils: 50 percent

Jarmillo and similar soils: 30 percent

Minor components: 20 percent

Component Descriptions**Tranquilar soils**

Landscape: Mountains

Landform: Valley floors, stream terraces

Position on landform: Toeslopes

Position on landform: Side slope

Parent material: Lacustrine deposits derived from igneous rock

Slope: 1 to 8 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Somewhat poorly drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 9.5 inches (high)

Shrink-swell potential: About 7.0 percent (high)

Seasonal high water table depth: About 18 to 48 inches

Runoff class: Very high

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Mountain Grassland

Potential native vegetation: western wheatgrass, prairie junegrass, spike muhly,
Rocky Mountain iris, sedge, shrubby cinquefoil

Land capability subclass (nonirrigated): 7c

Typical Profile:

- A1—0 to 4 inches; silty clay loam
- A2—4 to 8 inches; silty clay loam
- E1—8 to 11 inches; silty clay loam
- E2—11 to 13 inches; silty clay loam
- Bt1—13 to 20 inches; clay
- Bt2—20 to 34 inches; clay
- Bt3—34 to 42 inches; clay
- Bt4—42 to 50 inches; clay
- Bt5—50 to 60 inches; clay

Jarmillo soils

Landscape: Mountains

Landform: Stream terraces

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium over colluvium over lacustrine deposits derived from
igneous rock

Slope: 1 to 8 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 10.1 inches (high)

Shrink-swell potential: About 2.1 percent (low)

Runoff class: Medium

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Mountain Loam

Potential native vegetation: Arizona fescue, bluegrass, western wheatgrass, muhly,
needlegrass, bottlebrush squirreltail

Land capability subclass (nonirrigated): 7c

Typical Profile:

- A1—0 to 4 inches; loam
- A2—4 to 13 inches; loam
- AB—13 to 20 inches; loam
- Bw1—20 to 26 inches; loam
- Bw2—26 to 36 inches; loam
- Bw3—36 to 41 inches; fine sandy loam
- 2Bw4—41 to 51 inches; clay loam
- 3C—51 to 60 inches; very fine sandy loam

Minor Components

Vastine and similar soils

Composition: About 5 percent

Landscape: Mountains

Landform: Flood plains

Position on landform: Toeslopes

Position on landform: Base slope

Slope: 0 to 3 percent

Aspect: East to west

Shape (down/across): Concave/linear

Drainage class: Poorly drained

Flooding hazard: Rare

Ecological site: Mountain Loam

Jarola and similar soils

Composition: About 5 percent

Landscape: Valleys

Landform: Stream terraces

Position on landform: Toeslopes

Position on landform: Base slope

Slope: 1 to 5 percent

Aspect: East to west

Shape (down/across): Concave/linear

Drainage class: Poorly drained

Flooding hazard: Rare

Ecological site: Mountain Meadow

Cosey and similar soils

Composition: About 5 percent

Slope: 2 to 20 percent

Drainage class: Well drained

Ecological site: Mountain Loam

Tranquilar, stony silt loam and similar soils

Composition: About 5 percent

Slope: 5 to 8 percent

Drainage class: Somewhat poorly drained

Ecological site: Mountain Grassland

304—Cosey-Jarmillo association, 2 to 20 percent slopes**Map Unit Setting**

Major Land Resource Area: 48A

Elevation: 8,600 to 8,800 feet (2,621 to 2,682 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Cosey and similar soils: 45 percent

Jarmillo and similar soils: 40 percent

Minor components: 15 percent

Component Descriptions

Cosey soils

Landscape: Mountains

Landform: Mountain slopes

Position on landform: Backslopes

Position on landform: Mountainflank

Parent material: Slope alluvium over colluvium derived from rhyolite

Slope: 2 to 20 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 6.5 inches (moderate)

Shrink-swell potential: About 3.8 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Mountain Loam

Potential native vegetation: Arizona fescue, bluegrass, western wheatgrass, needlegrass, bottlebrush squirreltail, mountain muhly

Land capability subclass (nonirrigated): 7c

Typical Profile:

A1—0 to 9 inches; silt loam

A2—9 to 15 inches; silt loam

BA—15 to 28 inches; gravelly loam

Bt1—28 to 34 inches; very gravelly sandy clay loam

Bt2—34 to 60 inches; extremely cobbly clay loam

Jarmillo soils

Landscape: Mountains

Landform: Stream terraces

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Alluvial, colluvial, and lacustrine deposits derived from igneous rock

Slope: 2 to 20 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 8.4 inches (moderate)

Shrink-swell potential: About 2.2 percent (low)

Runoff class: Medium

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Mountain Loam

Potential native vegetation: Arizona fescue, bluegrass, western wheatgrass, muhly, needlegrass, bottlebrush squirreltail

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 17 inches; silt loam

Bw—17 to 33 inches; sandy loam

Cw—33 to 60 inches; sandy loam

Minor Components

Jarola and similar soils

Composition: About 10 percent

Landscape: Valleys

Landform: Stream terraces

Position on landform: Toeslopes

Position on landform: Base slope

Slope: 1 to 5 percent

Aspect: East to west

Shape (down/across): Concave/linear

Drainage class: Poorly drained

Flooding hazard: Rare

Ecological site: Mountain Meadow

Vastine and similar soils

Composition: About 5 percent

Landscape: Mountains

Landform: Flood plains

Position on landform: Toeslopes

Position on landform: Base slope

Slope: 0 to 3 percent

Aspect: East to west

Shape (down/across): Concave/linear

Drainage class: Poorly drained

Flooding hazard: Rare

Ecological site: Mountain Loam

307—Flugle-Waumac complex, 1 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,600 to 6,100 feet (1,707 to 1,859 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Flugle and similar soils: 60 percent

Waumac and similar soils: 25 percent

Minor components: 15 percent



Figure 9.—Typical landscape of Flugle-Waumac complex, 1 to 8 percent slopes.

Component Descriptions

Flugle soils

Landscape: Uplands

Landform: Cuestas, hills, valley sides, fan remnants, ridges

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Eolian deposits over fan alluvium derived from sandstone and shale

Slope: 1 to 5 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 8.5 inches (moderate)

Shrink-swell potential: About 2.3 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Savannah

Potential native vegetation: blue grama, twoneedle pinyon, western wheatgrass,
Indian ricegrass, juniper, needlegrass, other half shrubs

Land capability subclass (nonirrigated): 6c

Typical Profile:

- A—0 to 3 inches; loam
- Bt—3 to 7 inches; sandy clay loam
- Btk1—7 to 12 inches; sandy clay loam
- Btk2—12 to 19 inches; sandy clay loam
- Bk—19 to 60 inches; fine sandy loam

Waumac soils*Landscape:* Uplands*Landform:* Valley floors*Position on landform:* Toeslopes*Position on landform:* Side slope*Parent material:* Stream alluvium derived from igneous and sedimentary rock*Slope:* 1 to 8 percent*Aspect:* East to west*Shape (down/across):* Concave/linear*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* 2.0 to 6.0 in./hr. (moderately rapid)*Available water capacity:* About 7.5 inches (moderate)*Shrink-swell potential:* About 1.5 percent (low)*Runoff class:* Low*Calcium carbonate maximum:* About 10 percent*Gypsum maximum:* None*Salinity maximum:* About 2 mmhos/cm (nonsaline)*Sodium adsorption ratio maximum:* About 5 (slightly sodic)*Ecological site:* Sandy*Potential native vegetation:* blue grama, western wheatgrass, Indian ricegrass, black grama, oneseed juniper, twoneedle pinyon*Land capability subclass (nonirrigated):* 6s*Typical Profile:*

- A—0 to 3 inches; loamy sand
- C—3 to 60 inches; stratified fine sandy loam to sandy loam

Minor Components

Fragua and similar soils

Composition: About 10 percent*Slope:* 1 to 15 percent*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)*Drainage class:* Well drained*Ecological site:* Foothills

Royosa and similar soils

Composition: About 5 percent*Slope:* 1 to 8 percent*Drainage class:* Somewhat excessively drained*Ecological site:* Deep Sand

308—Cajete gravelly loam, 0 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 8,000 to 8,500 feet (2,438 to 2,591 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Cajete and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Cajete soils

Landscape: Mountains

Landform: Mountain slopes, stream terraces, hills

Position on landform: Footslopes

Position on landform: Mountainbase

Parent material: Residuum weathered from pumice

Slope: 0 to 8 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 3.7 inches (low)

Shrink-swell potential: About 2.1 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Mountain Grassland

Potential native vegetation: Arizona fescue, needlegrass, Kentucky bluegrass, bluegrass, western wheatgrass, Thurber fescue, pine dropseed

Land capability subclass (nonirrigated): 7c

Typical Profile:

A1—0 to 7 inches; gravelly loam

A2—7 to 15 inches; gravelly loam

Bw—15 to 33 inches; very gravelly sandy loam

C1—33 to 45 inches; very gravelly sand

C2—45 to 49 inches; extremely gravelly sand

C3—49 to 60 inches; very gravelly sand

Minor Components

Calaveras and similar soils

Composition: About 10 percent

Slope: 15 to 35 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Jarmillo and similar soils

Composition: About 5 percent

Slope: 2 to 20 percent

Drainage class: Well drained

Ecological site: Mountain Loam

311—Cosey-Tranquilar-Calaveras association, 5 to 20 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 8,600 to 9,200 feet (2,621 to 2,804 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Cosey and similar soils: 35 percent

Tranquilar and similar soils: 30 percent

Calaveras and similar soils: 25 percent

Minor components: 10 percent

Component Descriptions

Cosey soils

Landscape: Mountains

Landform: Mountain slopes

Position on landform: Toeslopes

Position on landform: Mountainbase

Parent material: Slope alluvium over colluvium derived from rhyolite

Slope: 5 to 20 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 5.7 inches (low)

Shrink-swell potential: About 3.9 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Mountain Loam

Potential native vegetation: Arizona fescue, bluegrass, western wheatgrass, needlegrass, bottlebrush squirreltail, mountain muhly

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 13 inches; silt loam

BA—13 to 24 inches; gravelly loam

Bt—24 to 60 inches; extremely cobbly clay loam

Tranquilar soils

Landscape: Mountains

Landform: Stream terraces, valley floors

Position on landform: Toeslopes

Position on landform: Mountainbase

Parent material: Lacustrine deposits derived from igneous rock

Slope: 5 to 8 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Somewhat poorly drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 9.9 inches (high)

Shrink-swell potential: About 6.6 percent (high)

Seasonal high water table depth: About 18 to 48 inches

Runoff class: Very high

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Mountain Grassland

Potential native vegetation: western wheatgrass, prairie junegrass, spike muhly,
Rocky Mountain iris, sedge, shrubby cinquefoil

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 14 inches; silt loam

E—14 to 20 inches; silt loam

Bt1—20 to 42 inches; clay

Bt2—42 to 60 inches; clay

Calaveras soils

Landscape: Mountains

Landform: Mountain slopes

Position on landform: Footslopes

Position on landform: Mountainbase

Parent material: Colluvium derived from tuff

Slope: 5 to 20 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 4.9 inches (low)

Shrink-swell potential: About 2.2 percent (low)

Runoff class: Medium

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Potential native vegetation:

Common trees: limber pine, ponderosa pine, white fir, Douglas-fir

Other plants: common juniper, nodding brome, prairie junegrass, unknown, quaking aspen

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 4 inches; silt loam

E—4 to 11 inches; silt loam

Bw—11 to 17 inches; gravelly silt loam

2Bt1—17 to 30 inches; very cobbly loam

2B2—30 to 39 inches; extremely cobbly coarse sandy loam

3Bt3—39 to 60 inches; extremely cobbly loamy sand

Minor Components

Jarmillo and similar soils

Composition: About 5 percent

Slope: 2 to 20 percent

Drainage class: Well drained

Ecological site: Mountain Loam

Cosey and similar soils

Composition: About 5 percent

Slope: 2 to 20 percent

Drainage class: Well drained

Ecological site: Mountain Loam

312—Royosa sand, 1 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,900 to 6,200 feet (1,798 to 1,890 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Royosa and similar soils: 90 percent

Minor components: 10 percent

Component Descriptions

Royosa soils

Landscape: Dune fields

Landform: Dunes

Position on landform: Shoulders

Position on landform: Side slope

Parent material: Eolian deposits derived from sandstone

Slope: 1 to 8 percent

Aspect: East to west

Shape (down/across): Convex/convex

Depth class: Very deep

Drainage class: Somewhat excessively drained

Slowest permeability: 6.0 to 20 in./hr. (rapid)
Available water capacity: About 3.6 inches (low)
Shrink-swell potential: About 1.5 percent (low)
Runoff class: Low
Calcium carbonate maximum: About 3 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Deep Sand
Potential native vegetation: Indian ricegrass, blue grama, dropseed, needle and thread, bottlebrush squirreltail, oneseed juniper
Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 5 inches; sand
 C1—5 to 16 inches; sand
 C2—16 to 60 inches; loamy sand

Minor Components

Waumac and similar soils
Composition: About 5 percent
Slope: 1 to 7 percent
Drainage class: Well drained
Ecological site: Sandy

Fragua and similar soils
Composition: About 5 percent
Slope: 1 to 8 percent
Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)
Drainage class: Well drained
Ecological site: Foothills

314—Fragua-Waumac-Royosa complex, 1 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 36
Elevation: 5,600 to 6,200 feet (1,707 to 1,890 meters)
Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)
Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)
Frost-free period: 110 to 130 days

Map Unit Composition

Fragua and similar soils: 40 percent
 Waumac and similar soils: 30 percent
 Royosa and similar soils: 25 percent
 Minor components: 5 percent

Component Descriptions

Fragua soils

Landscape: Uplands
Landform: Dipslopes, fan remnants
Position on landform: Foothills

Position on landform: Side slope

Parent material: Eolian deposits over fan alluvium derived from sandstone

Slope: 1 to 8 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 7.0 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Foothills

Potential native vegetation: Indian ricegrass, blue grama, western wheatgrass, alkali sacaton, mesa dropseed, oneseed juniper, twoneedle pinyon

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 3 inches; loamy sand

Bt1—3 to 8 inches; sandy loam

Bt2—8 to 24 inches; sandy loam

C—24 to 60 inches; sandy loam

Waumac soils

Landscape: Uplands

Landform: Valley floors

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 1 to 8 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 8.1 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Sandy

Potential native vegetation: Indian ricegrass, blue grama, western wheatgrass, alkali sacaton, mesa dropseed, oneseed juniper, twoneedle pinyon

Land capability subclass (nonirrigated): 6s

Typical Profile:

A—0 to 3 inches; loamy fine sand

C—3 to 60 inches; fine sandy loam

Royosa soils*Landscape:* Uplands*Landform:* Dunes*Position on landform:* Shoulders*Position on landform:* Side slope*Parent material:* Eolian deposits derived from sandstone*Slope:* 1 to 8 percent*Aspect:* East to west*Shape (down/across):* Convex/convex*Depth class:* Very deep*Drainage class:* Excessively drained*Slowest permeability:* 6.0 to 20 in./hr. (rapid)*Available water capacity:* About 3.5 inches (low)*Shrink-swell potential:* About 1.5 percent (low)*Runoff class:* Low*Calcium carbonate maximum:* About 3 percent*Gypsum maximum:* None*Salinity maximum:* About 2 mmhos/cm (nonsaline)*Sodium adsorption ratio maximum:* About 0 (nonsodic)*Ecological site:* Deep Sand*Potential native vegetation:* Indian ricegrass, blue grama, dropseed, needleandthread, oneseed juniper, squirreltail*Land capability subclass (nonirrigated):* 6e*Typical Profile:*

A—0 to 7 inches; fine sand

C—7 to 60 inches; fine sand

Minor Components

Flugle and similar soils

Composition: About 5 percent*Slope:* 1 to 5 percent*Drainage class:* Well drained*Ecological site:* Savannah**317—Elpedro loam, 1 to 8 percent slopes****Map Unit Setting***Major Land Resource Area:* 36*Elevation:* 5,700 to 6,300 feet (1,737 to 1,920 meters)*Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 48 to 52 degrees F. (8.9 to 11.1 degrees C.)*Frost-free period:* 110 to 130 days**Map Unit Composition**

Elpedro and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Elpedro soils***Landscape:* Uplands*Landform:* Valley sides, benches, fan piedmonts, hills, mesas*Position on landform:* Footslopes

Position on landform: Side slope

Parent material: Eolian deposits derived from sandstone over colluvium derived from limestone

Slope: 1 to 8 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 10.6 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: About 15 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Potential native vegetation:

Common trees: juniper, twoneedle pinyon

Other plants: blue grama, galleta, oak, bottlebrush squirreltail, western wheatgrass

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 2 inches; loam

Bt—2 to 22 inches; silty clay loam

Btk—22 to 60 inches; loam

Minor Components

Flugle and similar soils

Composition: About 8 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Savannah

Waumac and similar soils

Composition: About 7 percent

Slope: 1 to 7 percent

Drainage class: Well drained

Ecological site: Sandy

319—Bamac-Rock outcrop complex, 15 to 55 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,600 to 6,400 feet (1,707 to 1,951 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Bamac and similar soils: 60 percent

Rock outcrop: 25 percent

Minor components: 15 percent

Component Descriptions

Bamac soils

Landscape: Uplands

Landform: Fan remnants, fan remnants, ridges, hills

Position on landform: Footslopes

Position on landform: Head slope, side slope

Parent material: Alluvium derived from igneous and sedimentary rock

Slope: 15 to 55 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Excessively drained

Slowest permeability: 6.0 to 20 in./hr. (rapid)

Available water capacity: About 2.0 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Foothills

Potential native vegetation: blue grama, hairy grama, black grama, sideoats grama,

New Mexico Feathergrass, galleta, oneseed juniper, sacahuista

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 4 inches; very gravelly loamy sand

AC—4 to 10 inches; loamy sand

C1—10 to 21 inches; very gravelly loamy coarse sand

C2—21 to 37 inches; very gravelly loamy coarse sand

C3—37 to 60 inches; very gravelly loamy coarse sand

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Benches, ledges

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Minor Components

Espiritu and similar soils

Composition: About 10 percent

Slope: 15 to 40 percent

Drainage class: Well drained

Ecological site: Foothills

Waumac and similar soils

Composition: About 5 percent

Slope: 1 to 15 percent

Drainage class: Well drained

Ecological site: Sandy

320—Sparham silt loam, 0 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,500 to 7,500 feet (1,981 to 2,286 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Sparham and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Sparham soils

Landscape: Valleys

Landform: Flood plains, valley sides, alluvial fans

Position on landform: Toeslopes

Position on landform: Rise

Parent material: Fan alluvium derived from sandstone and shale

Slope: 0 to 3 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 9.8 inches (high)

Shrink-swell potential: About 7.2 percent (high)

Flooding hazard: Occasional

Runoff class: Medium

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 16 mmhos/cm (moderately saline)

Sodium adsorption ratio maximum: About 30 (strongly sodic)

Ecological site: Clayey

Potential native vegetation: western wheatgrass, alkali sacaton, bottlebrush
squirreltail, prairie junegrass

Land capability subclass (irrigated): 3s

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 9 inches; silt loam

C1—9 to 32 inches; silty clay

C2—32 to 60 inches; silty clay

Minor Components

Hickman and similar soils

Composition: About 10 percent

Slope: 1 to 5 percent

Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Swale

Royosa and similar soils

Composition: About 5 percent

Slope: 1 to 8 percent

Drainage class: Somewhat excessively drained

Ecological site: Deep Sand

321—Waumac-Royosa association, 1 to 15 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 5,600 to 6,700 feet (1,707 to 2,042 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Waumac and similar soils: 60 percent

Royosa and similar soils: 30 percent

Minor components: 10 percent

Component Descriptions**Waumac soils**

Landscape: Valleys

Landform: Valley floors

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Fan alluvium derived from igneous and sedimentary rock

Slope: 1 to 15 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 8.1 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Sandy

Potential native vegetation: Indian ricegrass, blue grama, western wheatgrass, alkali sacaton, mesa dropseed, oneseed juniper, twoneedle pinyon

Land capability subclass (nonirrigated): 6s

Typical Profile:

- A—0 to 3 inches; loamy fine sand
- C—3 to 60 inches; fine sandy loam

Royosa soils*Landscape:* Valleys*Landform:* Dunes*Position on landform:* Shoulders*Position on landform:* Side slope*Parent material:* Eolian deposits derived from sandstone*Slope:* 1 to 8 percent*Aspect:* East to west*Shape (down/across):* Convex/convex*Depth class:* Very deep*Drainage class:* Excessively drained*Slowest permeability:* 2.0 to 6.0 in./hr. (moderately rapid)*Available water capacity:* About 3.5 inches (low)*Shrink-swell potential:* About 1.5 percent (low)*Runoff class:* Low*Calcium carbonate maximum:* About 3 percent*Gypsum maximum:* None*Salinity maximum:* About 2 mmhos/cm (nonsaline)*Sodium adsorption ratio maximum:* About 0 (nonsodic)*Ecological site:* Deep Sand*Potential native vegetation:* Indian ricegrass, blue grama, dropseed, needleandthread, bottlebrush squirreltail, oneseed juniper*Land capability subclass (nonirrigated):* 6e*Typical Profile:*

- A—0 to 12 inches; fine sand
- C—12 to 60 inches; fine sand

Minor Components**Bamac and similar soils***Composition:* About 5 percent*Slope:* 1 to 15 percent*Drainage class:* Excessively drained*Ecological site:* Foothills**Fragua and similar soils***Composition:* About 3 percent*Slope:* 1 to 15 percent*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)*Drainage class:* Well drained*Ecological site:* Foothills**Rock outcrop***Composition:* About 2 percent*Depth to restrictive feature:* 0 inches to bedrock (lithic)

322—Fragua very cobbly fine sandy loam, 15 to 70 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,600 to 7,400 feet (1,707 to 2,256 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Fragua and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Fragua soils

Landscape: Uplands

Landform: Dipslopes, fan remnants

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Eolian deposits over fan alluvium derived from sandstone

Slope: 15 to 70 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Deep and very deep

Depth to restrictive feature: 40 to 80 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 4.6 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Foothills

Potential native vegetation: blue grama, hairy grama, black grama, sideoats grama,

New Mexico Feathergrass, galleta, sacahuista

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 3 inches; very cobbly fine sandy loam

Bt1—3 to 16 inches; very fine sandy loam

Bk—16 to 45 inches; loamy fine sand

Cr—45 to 60 inches; bedrock

Minor Components

Flugle and similar soils

Composition: About 5 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Savannah

Rock outcrop*Composition:* About 5 percent*Depth to restrictive feature:* 0 inches to bedrock (lithic)**Vessilla and similar soils***Composition:* About 3 percent*Slope:* 5 to 30 percent*Depth to restrictive feature:* 6 to 20 inches to bedrock (lithic)*Drainage class:* Well drained*Ecological site:* pinyon-juniper forest**Waumac and similar soils***Composition:* About 2 percent*Slope:* 1 to 15 percent*Drainage class:* Well drained*Ecological site:* Sandy

324—Rock outcrop-Atarque-Menefee complex, 5 to 25 percent slopes

Map Unit Setting

Major Land Resource Area: 36*Elevation:* 5,700 to 6,600 feet (1,737 to 2,012 meters)*Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 48 to 52 degrees F. (8.9 to 11.1 degrees C.)*Frost-free period:* 110 to 130 days

Map Unit Composition

Rock outcrop: 30 percent

Atarque and similar soils: 25 percent

Menefee and similar soils: 25 percent

Minor components: 20 percent

Component Descriptions

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.*Landform:* Ledges, escarpments*Aspect:* East to west*Depth to restrictive feature:* 0 inches to bedrock (lithic)*Land capability subclass (nonirrigated):* 8s

Atarque soils

Landscape: Uplands*Landform:* Cuestas, hills, dipslopes, mesas*Position on landform:* Backslopes*Position on landform:* Side slope*Parent material:* Slope alluvium derived from sandstone and shale*Slope:* 5 to 25 percent*Aspect:* East to west*Shape (down/across):* Linear/linear*Depth class:* Very shallow and shallow*Depth to restrictive feature:* 8 to 20 inches to bedrock (lithic)

Drainage class: Well drained
Slowest permeability: 0.6 to 2.0 in./hr. (moderate)
Available water capacity: About 2.0 inches (very low)
Shrink-swell potential: About 4.5 percent (moderate)
Runoff class: Very high
Calcium carbonate maximum: About 10 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Shallow Sandstone
Potential native vegetation: sideoats grama, blue grama, little bluestem, Indian ricegrass, galleta, twoneedle pinyon
Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; sandy loam
 Bt—3 to 9 inches; sandy clay loam
 Btk—9 to 14 inches; sandy clay loam
 R—14 to 60 inches; bedrock

Menefee soils

Landscape: Uplands
Landform: Hillslopes, mesas, mountainsides
Position on landform: Footslopes
Position on landform: Side slope
Parent material: Colluvium over residuum weathered from shale
Slope: 8 to 25 percent
Aspect: East to west
Shape (down/across): Linear/linear
Depth class: Very shallow and shallow
Depth to restrictive feature: 8 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)
Available water capacity: About 1.8 inches (very low)
Shrink-swell potential: About 4.5 percent (moderate)
Runoff class: Very high
Calcium carbonate maximum: About 5 percent
Gypsum maximum: About 1 percent
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Shallow
Potential native vegetation: blue grama, New Mexico Feathergrass, sideoats grama, little bluestem, black grama, galleta
Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 2 inches; gravelly loam
 C—2 to 9 inches; clay loam
 2Cr—9 to 60 inches; bedrock

Minor Components

Waumac and similar soils

Composition: About 10 percent

Slope: 1 to 15 percent

Drainage class: Well drained

Ecological site: Sandy

Vessilla and similar soils

Composition: About 10 percent

Slope: 5 to 30 percent

Depth to restrictive feature: 6 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Shallow Sandstone

325—Rock outcrop-Vessilla-Espiritu complex, 25 to 65 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 6,000 to 6,400 feet (1,829 to 1,951 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Rock outcrop: 35 percent

Vessilla and similar soils: 25 percent

Espiritu and similar soils: 25 percent

Minor components: 15 percent

Component Descriptions**Rock outcrop**

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Ledges, escarpments

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Vessilla soils

Landscape: Mountains

Landform: Mesas, hills, breaks, ridges, structural benches

Position on landform: Footslopes

Position on landform: Mountainflank, lower third

Parent material: Eolian deposits over slope alluvium over residuum weathered from sandstone

Slope: 25 to 55 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 1.1 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very high

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: sideoats grama, New Mexico Feathergrass, blue grama, little bluestem, galleta

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 1 inch; very gravelly sandy loam

C—1 inch to 10 inches; gravelly loam

R—10 to 60 inches; bedrock

Espiritu soils

Landscape: Mountains

Landform: Mountain slopes, mesas

Position on landform: Toeslopes

Position on landform: Mountainflank, lower third

Parent material: Alluvium, eolian material and colluvium derived from igneous and sedimentary rock

Slope: 25 to 65 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 5.1 inches (low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Foothills

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, wavyleaf oak, black grama, hairy grama, needle and thread, sideoats grama, true mountain mahogany

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 2 inches; very gravelly fine sandy loam

Bt—2 to 20 inches; very gravelly sandy clay loam

Bk—20 to 60 inches; very gravelly loam

Minor Components

Atarque and similar soils

Composition: About 5 percent

Slope: 25 to 45 percent

Depth to restrictive feature: 8 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Shallow Sandstone

Fragua and similar soils

Composition: About 5 percent

Slope: 5 to 25 percent

Depth to restrictive feature: 40 to 60 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Foothills

Sedillo and similar soils

Composition: About 3 percent

Slope: 5 to 25 percent

Drainage class: Well drained

Ecological site: Foothills

Skyvillage and similar soils

Composition: About 2 percent

Slope: 8 to 25 percent

Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Shallow Sandstone

342—Waumac-Vessilla-Rock outcrop complex, 5 to 40 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,200 to 6,900 feet (1,890 to 2,103 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Waumac and similar soils: 35 percent

Vessilla and similar soils: 25 percent

Rock outcrop: 20 percent

Minor components: 20 percent

Component Descriptions

Waumac soils

Landscape: Uplands

Landform: Valley floors

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Fan alluvium derived from igneous and sedimentary rock

Slope: 5 to 20 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 6.9 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Sandy

Potential native vegetation: Indian ricegrass, blue grama, western wheatgrass, alkali sacaton, mesa dropseed, oneseed juniper, twoneedle pinyon

Land capability subclass (nonirrigated): 6s

Typical Profile:

A—0 to 5 inches; loamy fine sand

C—5 to 60 inches; sandy loam

Vessilla soils

Landscape: Uplands

Landform: Hills, ridges, breaks, mesas

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Eolian deposits over slope alluvium over residuum weathered from sandstone

Slope: 5 to 40 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 1.8 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very high

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: Indian ricegrass, blue grama, mountain big sagebrush, oak, galleta, sideoats grama

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; fine sandy loam

C—3 to 13 inches; fine sandy loam

R—13 to 60 inches; bedrock

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Ledges, escarpments

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Minor Components**Badland**

Composition: About 10 percent

Slope: 15 to 35 percent

Depth to restrictive feature: 0 inches to bedrock (paralithic)

Royosa and similar soils

Composition: About 5 percent

Slope: 1 to 8 percent

Drainage class: Somewhat excessively drained

Ecological site: Deep Sand

Menefee and similar soils

Composition: About 5 percent

Slope: 15 to 35 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Shallow

345—Espiritu-Bamac association, 15 to 55 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 5,500 to 6,600 feet (1,676 to 2,012 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Espiritu and similar soils: 50 percent

Bamac and similar soils: 35 percent

Minor components: 15 percent

Component Descriptions**Espiritu soils**

Landscape: Uplands

Landform: Fan piedmonts, mesas

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Slope alluvium over colluvium derived from igneous and sedimentary rock

Slope: 15 to 55 percent

Aspect: East to west

Shape (down/across): Linear/linear

Surface fragments: About 10 percent subrounded cobbles

Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 0.6 to 2.0 in./hr. (moderate)
Available water capacity: About 4.7 inches (low)
Shrink-swell potential: About 3.3 percent (moderate)
Runoff class: High
Calcium carbonate maximum: About 5 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 5 (slightly sodic)
Ecological site: Foothills
Potential native vegetation: blue grama, hairy grama, black grama, sideoats grama,
 New Mexico Feathergrass, galleta, oneseed juniper, sacahuista
Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 6 inches; very gravelly fine sandy loam
 Bt1—6 to 15 inches; very gravelly sandy clay loam
 Bt2—15 to 22 inches; very gravelly sandy clay loam
 Bk1—22 to 29 inches; very cobbly sandy clay loam
 Bk2—29 to 38 inches; very cobbly sandy clay loam
 2C1—38 to 46 inches; fine sandy loam
 3C2—46 to 60 inches; very gravelly sandy loam

Bamac soils

Landscape: Uplands
Landform: Fan remnants, hills, ridges, fan remnants
Position on landform: Summits
Position on landform: Side slope, head slope
Parent material: Slope alluvium derived from igneous and sedimentary rock
Slope: 15 to 55 percent
Aspect: East to west
Shape (down/across): Convex/linear
Depth class: Very deep
Drainage class: Excessively drained
Slowest permeability: 6.0 to 20 in./hr. (rapid)
Available water capacity: About 1.8 inches (very low)
Shrink-swell potential: About 1.5 percent (low)
Runoff class: Medium
Calcium carbonate maximum: About 10 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 5 (slightly sodic)
Ecological site: Foothills
Potential native vegetation: blue grama, hairy grama, black grama, sideoats grama,
 New Mexico Feathergrass, galleta, oneseed juniper, sacahuista
Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 3 inches; very gravelly loamy sand
 C1—3 to 30 inches; very gravelly loamy sand
 C2—30 to 60 inches; stratified very gravelly loamy sand to loamy sand

Minor Components

Waumac and similar soils

Composition: About 5 percent

Slope: 1 to 7 percent

Drainage class: Well drained

Ecological site: Sandy

Cochiti and similar soils

Composition: About 5 percent

Slope: 15 to 40 percent

Drainage class: Well drained

Ecological site: pinyon-juniper forest

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

346—Espiritu, cobbly-Bamac association, 15 to 40 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 5,900 to 6,900 feet (1,798 to 2,103 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Espiritu, cobbly and similar soils: 70 percent

Bamac and similar soils: 20 percent

Minor components: 10 percent

Component Descriptions**Espiritu, cobbly soils**

Landscape: Uplands

Landform: Fan piedmonts, mesas

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Slope alluvium over colluvium derived from igneous and sedimentary rock

Slope: 15 to 40 percent

Aspect: East to west

Shape (down/across): Linear/linear

Surface fragments: About 7 percent subrounded cobbles

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 3.3 inches (low)

Shrink-swell potential: About 2.6 percent (low)

Runoff class: High

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Foothills

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: black grama, blue grama, sideoats grama, hairy grama, needle and thread, true mountain mahogany, wavyleaf oak

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 2 inches; extremely cobbly sandy loam

Bt—2 to 24 inches; very gravelly sandy clay loam

Bk—24 to 36 inches; extremely gravelly sandy loam

2C—36 to 60 inches; very gravelly loamy sand

Bamac soils

Landscape: Uplands

Landform: Hills, ridges, fan remnants

Position on landform: Shoulders

Position on landform: Side slope, head slope

Parent material: Slope alluvium derived from igneous and sedimentary rock

Slope: 15 to 40 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very deep

Drainage class: Excessively drained

Slowest permeability: 6.0 to 20 in./hr. (rapid)

Available water capacity: About 2.4 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Foothills

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: black grama, blue grama, sideoats grama, hairy grama, needle and thread, true mountain mahogany, wavyleaf oak

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 3 inches; very gravelly loamy sand

C1—3 to 30 inches; very gravelly loamy coarse sand

C2—30 to 45 inches; loamy sand

C3—45 to 60 inches; very gravelly loamy sand

Minor Components

Cochiti and similar soils

Composition: About 5 percent

Slope: 15 to 40 percent

Drainage class: Well drained

Rock outcrop*Composition:* About 3 percent*Depth to restrictive feature:* 0 inches to bedrock (lithic)**Royosa and similar soils***Composition:* About 2 percent*Slope:* 1 to 8 percent*Drainage class:* Somewhat excessively drained*Ecological site:* Deep Sand**348—Wauquie-Rock outcrop complex, 25 to 45 percent slopes****Map Unit Setting***Major Land Resource Area:* 36*Elevation:* 6,000 to 6,800 feet (1,829 to 2,073 meters)*Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 48 to 52 degrees F. (8.9 to 11.1 degrees C.)*Frost-free period:* 110 to 130 days**Map Unit Composition**

Wauquie and similar soils: 60 percent

Rock outcrop: 20 percent

Minor components: 20 percent

Component Descriptions**Wauquie soils***Landscape:* Mountains*Landform:* Mountain slopes, hills, mesas, benches, canyons*Position on landform:* Backslopes*Position on landform:* Mountainflank*Parent material:* Slope alluvium over colluvium derived from igneous and sedimentary rock*Slope:* 25 to 45 percent*Aspect:* East to west*Shape (down/across):* Linear/linear*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* 0.2 to 0.6 in./hr. (moderately slow)*Available water capacity:* About 3.7 inches (low)*Shrink-swell potential:* About 2.2 percent (low)*Runoff class:* High*Calcium carbonate maximum:* About 3 percent*Gypsum maximum:* None*Salinity maximum:* About 2 mmhos/cm (nonsaline)*Sodium adsorption ratio maximum:* About 0 (nonsodic)*Ecological site:* Juniperus monosperma-Pinus edulis/Fallugia paradoxa-

Chrysothamnus nauseosus/Bouteloua hirsuta-Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: Eriogonum, blue grama, skunkbush sumac, slender wheatgrass, bottlebrush squirreltail, wavyleaf oak

Land capability subclass (nonirrigated): 7s

Typical Profile:

- A—0 to 2 inches; extremely gravelly sandy clay loam
- Bt1—2 to 16 inches; very gravelly clay loam
- Bt2—16 to 40 inches; very gravelly sandy loam
- Bk—40 to 60 inches; extremely gravelly loamy sand

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Escarpments, ledges

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Minor Components

Bamac and similar soils

Composition: About 5 percent

Slope: 15 to 55 percent

Drainage class: Excessively drained

Ecological site: Foothills

Waumac and similar soils

Composition: About 5 percent

Slope: 1 to 7 percent

Drainage class: Well drained

Ecological site: Sandy

Vessilla and similar soils

Composition: About 5 percent

Slope: 5 to 30 percent

Depth to restrictive feature: 6 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Shallow Sandstone

Royosa and similar soils

Composition: About 5 percent

Slope: 1 to 8 percent

Drainage class: Somewhat excessively drained

Ecological site: Deep Sand

353—Cochiti-Espiritu association, 15 to 55 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 5,300 to 6,400 feet (1,615 to 1,951 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Cochiti and similar soils: 50 percent

Espiritu and similar soils: 45 percent

Minor components: 5 percent

Component Descriptions

Cochiti soils

Landscape: Uplands

Landform: Fan remnants

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Slope alluvium derived from igneous and sedimentary rock

Slope: 15 to 40 percent

Aspect: East to west

Shape (down/across): Linear/linear

Surface fragments: About 3 percent subrounded cobbles

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 3.8 inches (low)

Shrink-swell potential: About 2.5 percent (low)

Runoff class: High

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Juniperus monosperma-Pinus edulis/Fallugia paradoxa-

Chrysothamnus nauseosus/Bouteloua hirsuta-Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, bottlebrush squirreltail, sideoats grama

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 4 inches; extremely gravelly loam

Bt—4 to 22 inches; very gravelly clay loam

C—22 to 60 inches; very gravelly loamy sand

Espiritu soils

Landscape: Uplands

Landform: Fan piedmonts, mesas

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Slope alluvium over colluvium derived from igneous and sedimentary rock

Slope: 25 to 55 percent

Aspect: East to west

Shape (down/across): Linear/linear

Surface fragments: About 3 percent subrounded cobbles

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 2.4 inches (very low)

Shrink-swell potential: About 2.2 percent (low)

Runoff class: High

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Foothills

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: black grama, blue grama, sideoats grama, hairy grama, needle and thread, true mountain mahogany, wavyleaf oak

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 3 inches; very gravelly loam

Bt—3 to 16 inches; very gravelly sandy clay loam

Bk—16 to 60 inches; extremely gravelly loamy sand

Minor Components

Teco and similar soils

Composition: About 3 percent

Slope: 8 to 40 percent

Drainage class: Well drained

Ecological site: Clayey

Waumac and similar soils

Composition: About 2 percent

Slope: 1 to 7 percent

Drainage class: Well drained

Ecological site: Sandy

354—Waumac Variant very gravelly sandy loam, 1 to 15 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,600 to 5,900 feet (1,707 to 1,798 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Waumac Variant and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Waumac Variant soils

Landscape: Uplands

Landform: Ridges, hills

Position on landform: Summits

Position on landform: Nose slope

Parent material: Residuum weathered from tuff

Slope: 1 to 15 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 0.7 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very high

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: *Pinus edulis*/*Rhus trilobata*/*Bouteloua gracilis*

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: Apache plume, black grama, blue grama, broom snakeweed, little bluestem, sandhill muhly

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; very gravelly sandy loam

C—3 to 12 inches; very gravelly sandy loam

Cr—12 to 60 inches; bedrock

Minor Components

Rock outcrop

Composition: About 10 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

Waumac and similar soils

Composition: About 5 percent

Slope: 1 to 7 percent

Drainage class: Well drained

Ecological site: Sandy

358—Deama-Elpedro-Rock outcrop complex, 10 to 55 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,800 to 6,800 feet (1,768 to 2,073 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Deama and similar soils: 35 percent

Elpedro and similar soils: 25 percent

Rock outcrop: 25 percent

Minor components: 15 percent

Component Descriptions

Deama soils

Landscape: Uplands

Landform: Plateaus, hills, ridges, mesas

Position on landform: Shoulders

Position on landform: Side slope

Parent material: Colluvium over residuum weathered from limestone

Slope: 10 to 55 percent
Aspect: East to west
Shape (down/across): Convex/linear
Depth class: Shallow
Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Slowest permeability: 0.6 to 2.0 in./hr. (moderate)
Available water capacity: About 1.3 inches (very low)
Shrink-swell potential: About 4.5 percent (moderate)
Runoff class: Very high
Calcium carbonate maximum: About 60 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 5 (slightly sodic)
Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis
Potential native vegetation:
 Common trees: twoneedle pinyon
 Other plants: blue grama, sideoats grama, New Mexico Feathergrass
Land capability subclass (nonirrigated): 7e

Typical Profile:
 A—0 to 3 inches; very gravelly loam
 Bk—3 to 19 inches; very gravelly loam
 2R—19 to 60 inches; bedrock

Elpedro soils

Landscape: Uplands
Landform: Valley sides, mesas, hills, fan piedmonts, benches
Position on landform: Footslopes
Position on landform: Side slope
Parent material: Eolian deposits over colluvium derived from limestone
Slope: 10 to 40 percent
Aspect: East to west
Shape (down/across): Linear/linear
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)
Available water capacity: About 10.8 inches (high)
Shrink-swell potential: About 4.5 percent (moderate)
Runoff class: High
Calcium carbonate maximum: About 15 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 5 (slightly sodic)
Ecological site: Juniperus monosperma-Pinus edulis/Fallugia paradoxa-Chrysothamnus nauseosus/Bouteloua hirsuta-Bouteloua gracilis
Potential native vegetation:
 Common trees: oneseed juniper, twoneedle pinyon
 Other plants: blue grama, bottlebrush squirreltail, galleta, oak, western wheatgrass
Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 3 inches; very gravelly loam

Bt—3 to 37 inches; silty clay loam

Btk—37 to 60 inches; loam

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Escarpments

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Minor Components

Espiritu and similar soils

Composition: About 10 percent

Slope: 15 to 40 percent

Drainage class: Well drained

Ecological site: Foothills

Menefee and similar soils

Composition: About 5 percent

Slope: 5 to 35 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: pinyon-juniper forest

396—Atarque-Menefee-Rock outcrop complex, 25 to 45 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,000 to 6,600 feet (1,829 to 2,012 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Atarque and similar soils: 30 percent

Menefee and similar soils: 30 percent

Rock outcrop: 25 percent

Minor components: 15 percent

Component Descriptions**Atarque soils**

Landscape: Uplands

Landform: Dipslopes, hills, mesas, cuestras

Position on landform: Shoulders

Position on landform: Nose slope

Parent material: Slope alluvium derived from sandstone and shale

Slope: 25 to 45 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very shallow and shallow
Depth to restrictive feature: 8 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)
Available water capacity: About 3.1 inches (low)
Shrink-swell potential: About 4.5 percent (moderate)
Runoff class: Very high
Calcium carbonate maximum: About 5 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 5 (slightly sodic)
Ecological site: Shallow Sandstone
Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon
 Other plants: sideoats grama, New Mexico Feathergrass, blue grama, little bluestem

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 2 inches; extremely gravelly sandy loam
 Bt—2 to 16 inches; clay loam
 R—16 to 60 inches; bedrock

Menefee soils

Landscape: Uplands
Landform: Hillslopes, mesas, mountainsides
Position on landform: Backslopes
Position on landform: Side slope
Parent material: Colluvium over residuum weathered from shale
Slope: 25 to 45 percent
Aspect: East to west
Shape (down/across): Linear/linear
Depth class: Very shallow and shallow
Depth to restrictive feature: 8 to 20 inches to bedrock (paralithic)
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)
Available water capacity: About 2.7 inches (very low)
Shrink-swell potential: About 4.5 percent (moderate)
Runoff class: Very high
Calcium carbonate maximum: About 10 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis
Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon
 Other plants: Bigelow sagebrush, mormon tea, Indian ricegrass, Mexican cliffrose, bluegrass, galleta, green rabbitbrush

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 2 inches; gravelly clay loam

C—2 to 14 inches; clay loam

2Cr—14 to 60 inches; bedrock

Rock outcrop*Description:* Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.*Landform:* Hills, escarpments*Aspect:* East to west*Depth to restrictive feature:* 0 inches to bedrock (lithic)*Land capability subclass (nonirrigated):* 8s**Minor Components**

Waumac and similar soils

Composition: About 5 percent*Slope:* 1 to 8 percent*Drainage class:* Well drained*Ecological site:* Sandy

Flugle and similar soils

Composition: About 5 percent*Slope:* 1 to 5 percent*Drainage class:* Well drained*Ecological site:* Savannah

Vessilla and similar soils

Composition: About 5 percent*Slope:* 3 to 15 percent*Depth to restrictive feature:* 6 to 20 inches to bedrock (paralithic)*Drainage class:* Well drained*Ecological site:* Shallow Sandstone**397—Rock outcrop-Cucho-Vessilla complex, 25 to 70 percent slopes****Map Unit Setting***Major Land Resource Area:* 36*Elevation:* 6,000 to 7,200 feet (1,829 to 2,195 meters)*Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 48 to 52 degrees F. (8.9 to 11.1 degrees C.)*Frost-free period:* 110 to 130 days**Map Unit Composition**

Rock outcrop: 30 percent

Cucho and similar soils: 25 percent

Vessilla and similar soils: 25 percent

Minor components: 20 percent

Component Descriptions**Rock outcrop***Description:* Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Hills, escarpments

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Cucho soils

Landscape: Uplands

Landform: Cuestas, fan remnants

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Colluvium derived from shale

Slope: 25 to 70 percent

Aspect: East to west

Shape (down/across): Linear/linear

Surface fragments: About 45 percent subrounded gravel

Depth class: Moderately deep

Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 4.4 inches (low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate maximum: About 15 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Juniperus monosperma-Pinus edulis/Fallugia paradoxa-

Chrysothamnus nauseosus/Bouteloua hirsuta-Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: Indian ricegrass, bottlebrush squirreltail, galleta, mountain

mahogany, needle and thread, sideoats grama, skunkbush sumac, wavyleaf oak

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 2 inches; very gravelly clay loam

C1—2 to 9 inches; clay loam

C2—9 to 37 inches; very gravelly clay loam

Cr—37 to 60 inches; bedrock

Vessilla soils

Landscape: Uplands

Landform: Structural benches, hills, ridges, breaks, mesas

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Eolian material and alluvium derived from sandstone

Slope: 25 to 65 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 1.1 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very high

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: *Pinus edulis*/*Rhus trilobata*/*Bouteloua gracilis*

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: sideoats grama, New Mexico Feathergrass, blue grama, little bluestem, galleta

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 2 inches; gravelly fine sandy loam

C—2 to 11 inches; gravelly fine sandy loam

R—11 to 60 inches; bedrock

Minor Components

Atarque and similar soils

Composition: About 5 percent

Slope: 25 to 45 percent

Depth to restrictive feature: 8 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Shallow Sandstone

Menefee and similar soils

Composition: About 5 percent

Slope: 25 to 45 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: pinyon-juniper forest

Skyvillage and similar soils

Composition: About 5 percent

Slope: 8 to 25 percent

Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Shallow Sandstone

Waumac and similar soils

Composition: About 5 percent

Slope: 1 to 7 percent

Drainage class: Well drained

Ecological site: Sandy

398—Espiritu-Cucho association, 8 to 55 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,000 to 6,900 feet (1,829 to 2,103 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Espiritu and similar soils: 45 percent

Cucho and similar soils: 35 percent

Minor components: 20 percent

Component Descriptions

Espiritu soils

Landscape: Uplands

Landform: Mountain slopes, mesas

Position on landform: Backslopes

Position on landform: Mountainflank, lower third, side slope

Parent material: Slope alluvium and colluvium derived from igneous and sedimentary rock

Slope: 8 to 55 percent

Aspect: East to west

Shape (down/across): Linear/linear

Surface fragments: About 20 percent subrounded gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 3.0 inches (very low)

Shrink-swell potential: About 2.6 percent (low)

Runoff class: High

Calcium carbonate maximum: About 1 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Foothills

Potential native vegetation: blue grama, hairy grama, black grama, sideoats grama,

New Mexico Feathergrass, galleta, oneseed juniper, sacahuista

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 4 inches; very gravelly fine sandy loam

Bt—4 to 24 inches; very gravelly sandy clay loam

Bk—24 to 60 inches; extremely gravelly sandy loam

Cucho soils

Landscape: Uplands

Landform: Cuestas, fan remnants

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Colluvium derived from shale

Slope: 15 to 55 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Moderately deep

Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 7.2 inches (moderate)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate maximum: About 15 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Juniperus monosperma-Pinus edulis/Fallugia paradoxa-

Chrysothamnus nauseosus/Bouteloua hirsuta-Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: Indian ricegrass, bottlebrush squirreltail, galleta, mountain

mahogany, needle and thread, sideoats grama, skunkbush sumac, wavyleaf oak

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 2 inches; very gravelly clay loam

C—2 to 37 inches; silty clay loam

Cr—37 to 60 inches; bedrock

Minor Components

Menefee and similar soils

Composition: About 10 percent

Slope: 5 to 35 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: Shallow

Waumac and similar soils

Composition: About 5 percent

Slope: 1 to 7 percent

Drainage class: Well drained

Ecological site: Sandy

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

399—Cucho-Teco complex, 8 to 40 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,900 to 7,000 feet (1,798 to 2,134 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Cucho and similar soils: 45 percent

Teco and similar soils: 35 percent

Minor components: 20 percent

Component Descriptions

Cucho soils

Landscape: Uplands

Landform: Cuestas, fan remnants

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Colluvium derived from shale

Slope: 15 to 40 percent

Aspect: East to west

Shape (down/across): Linear/linear

Surface fragments: About 50 percent subrounded gravel

Depth class: Moderately deep

Depth to restrictive feature: 20 to 40 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 7.2 inches (moderate)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate maximum: About 15 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Juniperus monosperma-Pinus edulis/Fallugia paradoxa-

Chrysothamnus nauseosus/Bouteloua hirsuta-Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: Indian ricegrass, bottlebrush squirreltail, galleta, mountain

mahogany, needle and thread, sideoats grama, skunkbush sumac, wavyleaf oak

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 2 inches; very gravelly clay loam

C—2 to 37 inches; clay loam

Cr—37 to 60 inches; bedrock

Teco soils

Landscape: Uplands

Landform: Hills, cuestas

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Slope alluvium derived from sandstone and shale

Slope: 8 to 40 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 7.7 inches (moderate)

Shrink-swell potential: About 6.2 percent (high)

Runoff class: Very high

Calcium carbonate maximum: About 13 percent

Gypsum maximum: None

Salinity maximum: About 8 mmhos/cm (slightly saline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Clayey

Potential native vegetation: alkali sacaton, western wheatgrass, New Mexico

Feathergrass, blue grama, galleta, fourwing saltbush, winterfat

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 1 inch; very cobbly fine sandy loam

Bt1—1 inch to 7 inches; sandy clay

Bt2—7 to 23 inches; clay

Btk—23 to 40 inches; clay

2C—40 to 45 inches; very gravelly fine sandy loam

3Bkb—45 to 60 inches; channery sandy clay loam

Minor Components

Espiritu and similar soils

Composition: About 10 percent

Slope: 15 to 40 percent

Drainage class: Well drained

Ecological site: Foothills

Menefee and similar soils

Composition: About 5 percent

Slope: 5 to 35 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Ecological site: pinyon-juniper forest

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

405—Charo complex, 1 to 5 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 8,100 to 8,300 feet (2,469 to 2,530 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Charo and similar soils: 50 percent

Charo, noncobbly, and similar soils: 40 percent

Minor components: 10 percent

Component Descriptions

Charo soils

Landscape: Mountains

Landform: Mesas, ridges, hills

Position on landform: Shoulders

Position on landform: Crest, mountaintop

Parent material: Eolian deposits over residuum weathered from basalt

Slope: 1 to 5 percent

Aspect: East to west

Shape (down/across): Convex/linear

Surface fragments: About 2 percent subrounded stones

Depth class: Moderately deep

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 4.0 inches (low)

Shrink-swell potential: About 7.4 percent (high)

Runoff class: Medium

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus ponderosa-Juniperus deppeana/Quercus gambelii

Potential native vegetation:

Common trees: Rocky Mountain juniper, twoneedle pinyon, ponderosa pine

Other plants: blue grama, Arizona fescue, mountain muhly, spineless horsebrush,

Fendler ceanothus, prairie junegrass

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 5 inches; cobbly loam

Bt1—5 to 12 inches; clay

Bt2—12 to 15 inches; clay

Bt3—15 to 25 inches; clay

C—25 to 28 inches; clay

R—28 to 60 inches; bedrock

Charo, noncobbly soils

Landscape: Mountains

Landform: Hills, ridges, mesas

Position on landform: Shoulders

Position on landform: Crest, mountaintop

Parent material: Eolian deposits over residuum weathered from basalt

Slope: 1 to 3 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Moderately deep

Depth to restrictive feature: 20 to 40 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 6.5 inches (moderate)

Shrink-swell potential: About 4.2 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Mountain Grassland

Potential native vegetation: Arizona fescue, mountain muhly, muttongrass, prairie junegrass

Land capability subclass (nonirrigated): 7c

Typical Profile:

- A—0 to 8 inches; loam
- Bt—8 to 38 inches; clay
- R—38 to 60 inches; bedrock

Minor Components

Rock outcrop

Composition: About 10 percent*Depth to restrictive feature:* 0 inches to bedrock (lithic)**409—Santa Fe very gravelly sandy loam, 15 to 40 percent slopes, stony****Map Unit Setting***Major Land Resource Area:* 36*Elevation:* 6,800 to 7,600 feet (2,073 to 2,316 meters)*Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 48 to 52 degrees F. (8.9 to 11.1 degrees C.)*Frost-free period:* 110 to 130 days**Map Unit Composition**

Santa Fe and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Santa Fe soils***Landscape:* Mountains*Landform:* Mountain slopes*Position on landform:* Backslopes*Position on landform:* Mountainflank*Parent material:* Slope alluvium over residuum weathered from granite*Slope:* 15 to 40 percent*Aspect:* East to west*Shape (down/across):* Linear/linear*Depth class:* Very shallow and shallow*Depth to restrictive feature:* 8 to 20 inches to bedrock (lithic)*Drainage class:* Well drained*Slowest permeability:* 0.6 to 2.0 in./hr. (moderate)*Available water capacity:* About 0.5 inches (very low)*Shrink-swell potential:* About 4.5 percent (moderate)*Runoff class:* Very high*Calcium carbonate maximum:* None*Gypsum maximum:* None*Salinity maximum:* About 2 mmhos/cm (nonsaline)*Sodium adsorption ratio maximum:* About 0 (nonsodic)*Ecological site:* Pinus edulis/Rhus trilobata/Bouteloua gracilis*Potential native vegetation:*

Common trees: oneseed juniper, twoneedle pinyon

Other plants: sideoats grama, blue grama, galleta, pinyon ricegrass

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; very gravelly sandy loam
 Bt—3 to 8 inches; very gravelly sandy clay loam
 2R—8 to 60 inches; bedrock

Minor Components

Rock outcrop

Composition: About 10 percent
Depth to restrictive feature: 0 inches to bedrock (lithic)
Ecological site: pinyon-juniper forest

Vessilla and similar soils

Composition: About 3 percent
Slope: 5 to 40 percent
Depth to restrictive feature: 6 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Ecological site: pinyon-juniper forest

Waumac and similar soils

Composition: About 2 percent
Slope: 5 to 20 percent
Drainage class: Well drained
Ecological site: Sandy

410—Zia loam, 0 to 1 percent slopes**Map Unit Setting**

Major Land Resource Area: 36
Elevation: 5,000 to 5,500 feet (1,524 to 1,676 meters)
Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)
Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)
Frost-free period: 120 to 140 days

Map Unit Composition

Zia and similar soils: 85 percent
 Minor components: 15 percent

Component Descriptions**Zia soils**

Landscape: Valleys
Landform: Stream terraces
Position on landform: Toeslopes
Position on landform: Base slope
Parent material: Eolian deposits over stream alluvium derived from sandstone
Slope: 0 to 1 percent
Aspect: East to west
Shape (down/across): Concave/linear
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 0.6 to 2.0 in./hr. (moderate)
Available water capacity: About 8.1 inches (moderate)
Shrink-swell potential: About 1.5 percent (low)
Runoff class: Low

Calcium carbonate maximum: About 15 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, spike muhly, western wheatgrass, bottlebrush
squirrealtail, fourwing saltbush, oneseed juniper, winterfat

Land capability subclass (irrigated): 3e

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 10 inches; loam

C—10 to 60 inches; stratified sandy loam to fine sandy loam

Minor Components

Pinavetes and similar soils

Composition: About 10 percent

Landform: Dunes, valley sides

Slope: 1 to 3 percent

Aspect: East to west

Drainage class: Excessively drained

Ecological site: Deep Sand

El Rancho and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Drainage class: Well drained

Ecological site: Loamy

414—Wauquie very gravelly fine sandy loam, 8 to 25 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,400 to 6,700 feet (1,951 to 2,042 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Wauquie and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Wauquie soils

Landscape: Uplands

Landform: Mesas, canyons, fan piedmonts, benches, hills

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Slope alluvium over colluvium derived from igneous and sedimentary rock

Slope: 8 to 25 percent
Aspect: East to west
Shape (down/across): Linear/linear
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 0.6 to 2.0 in./hr. (moderate)
Available water capacity: About 3.6 inches (low)
Shrink-swell potential: About 2.9 percent (low)
Runoff class: Medium
Calcium carbonate maximum: About 10 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 5 (slightly sodic)
Ecological site: Juniperus monosperma-Pinus edulis/Fallugia paradoxa-Chrysothamnus nauseosus/Bouteloua hirsuta-Bouteloua gracilis
Potential native vegetation:
 Common trees: oneseed juniper, twoneedle pinyon
 Other plants: Eriogonum, blue grama, skunkbush sumac, slender wheatgrass, bottlebrush squirreltail, wavyleaf oak
Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; very gravelly fine sandy loam
 Bt—3 to 30 inches; very gravelly sandy clay loam
 Bk—30 to 60 inches; stratified very gravelly sandy loam to very gravelly loamy coarse sand

Minor Components

Santa Fe and similar soils

Composition: About 5 percent
Slope: 15 to 40 percent
Depth to restrictive feature: 8 to 20 inches to bedrock (lithic)
Drainage class: Well drained
Ecological site: pinyon-juniper forest

Bamac and similar soils

Composition: About 5 percent
Slope: 15 to 55 percent
Drainage class: Excessively drained
Ecological site: Foothills

Laventana and similar soils

Composition: About 5 percent
Slope: 3 to 15 percent
Depth to restrictive feature: 40 to 60 inches to bedrock (lithic)
Drainage class: Well drained
Ecological site: pinyon-juniper forest

417—Jocity loam, 0 to 2 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,300 to 5,500 feet (1,615 to 1,676 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Jocity and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Jocity soils

Landscape: Valleys

Landform: Alluvial fans, flood plains

Position on landform: Toeslopes

Position on landform: Rise, base slope

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 0 to 2 percent

Aspect: East to west

Shape (down/across): Linear, concave/linear

Depth class: Very deep

Drainage class: Moderately well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 9.6 inches (high)

Shrink-swell potential: About 4.0 percent (moderate)

Flooding hazard: Rare

Seasonal high water table depth: About 48 to 72 inches

Runoff class: Low

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Bottomland

Potential native vegetation: giant sacaton, alkali sacaton, fourwing saltbush

Land capability subclass (irrigated): 2e

Land capability subclass (nonirrigated): 7c

Typical Profile:

Ap—0 to 10 inches; loam

C1—10 to 26 inches; silty clay loam

C2—26 to 32 inches; loam

C3—32 to 50 inches; sandy clay loam

C4—50 to 56 inches; sandy loam

C5—56 to 60 inches; loamy sand

Minor Components

Zia and similar soils

Composition: About 5 percent

Slope: 1 to 3 percent

Drainage class: Well drained

Ecological site: Sandy

Aga and similar soils*Composition:* About 5 percent*Slope:* 0 to 1 percent*Drainage class:* Moderately well drained*Flooding hazard:* Rare*Ecological site:* Bottomland**Sparham and similar soils***Composition:* About 5 percent*Slope:* 0 to 1 percent*Drainage class:* Somewhat poorly drained*Flooding hazard:* Rare*Ecological site:* Bottomland**418—Jocity clay loam, 0 to 2 percent slopes****Map Unit Setting***Major Land Resource Area:* 42*Elevation:* 5,300 to 5,600 feet (1,615 to 1,707 meters)*Mean annual precipitation:* 8 to 10 inches (203 to 254 millimeters)*Mean annual air temperature:* 53 to 55 degrees F. (11.7 to 12.8 degrees C.)*Frost-free period:* 140 to 160 days**Map Unit Composition**

Jocity and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Jocity soils***Landscape:* Valleys*Landform:* Alluvial fans, flood plains*Position on landform:* Toeslopes*Position on landform:* Base slope, rise*Parent material:* Stream alluvium derived from igneous and sedimentary rock*Slope:* 0 to 2 percent*Aspect:* East to west*Shape (down/across):* Concave, linear/linear*Depth class:* Very deep*Drainage class:* Moderately well drained*Slowest permeability:* 0.2 to 0.6 in./hr. (moderately slow)*Available water capacity:* About 8.6 inches (moderate)*Shrink-swell potential:* About 2.9 percent (low)*Flooding hazard:* Rare*Seasonal high water table depth:* About 48 to 72 inches*Runoff class:* Low*Calcium carbonate maximum:* About 5 percent*Gypsum maximum:* None*Salinity maximum:* About 4 mmhos/cm (very slightly saline)*Sodium adsorption ratio maximum:* About 5 (slightly sodic)*Ecological site:* Bottomland*Potential native vegetation:* giant sacaton, alkali sacaton, fourwing saltbush*Land capability subclass (irrigated):* 2e*Land capability subclass (nonirrigated):* 7c

Typical Profile:

- A—0 to 12 inches; clay loam
- C1—12 to 30 inches; clay loam
- C2—30 to 60 inches; stratified loamy sand to sandy loam

Minor Components

Gilco and similar soils

- Composition:* About 5 percent
- Slope:* 0 to 1 percent
- Drainage class:* Moderately well drained
- Flooding hazard:* Rare
- Ecological site:* Bottomland

Aga and similar soils

- Composition:* About 5 percent
- Slope:* 0 to 1 percent
- Drainage class:* Moderately well drained
- Flooding hazard:* Rare
- Ecological site:* Bottomland

Sparham and similar soils

- Composition:* About 3 percent
- Slope:* 0 to 1 percent
- Drainage class:* Somewhat poorly drained
- Flooding hazard:* Rare
- Ecological site:* Bottomland

Zia and similar soils

- Composition:* About 2 percent
- Slope:* 1 to 4 percent
- Drainage class:* Well drained
- Ecological site:* Sandy

419—Santa Fe-Wauquie-Rock outcrop complex, 25 to 70 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 6,400 to 8,400 feet (1,951 to 2,560 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Santa Fe and similar soils: 40 percent

Wauquie and similar soils: 30 percent

Rock outcrop: 20 percent

Minor components: 10 percent

Component Descriptions**Santa Fe soils**

Landscape: Mountains

Landform: Mountain slopes

Position on landform: Backslopes, mountainflanks

Parent material: Slope alluvium over residuum weathered from granite

Slope: 25 to 70 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 8 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 0.8 inches (very low)

Shrink-swell potential: About 3.2 percent (moderate)

Runoff class: Very high

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: sideoats grama, blue grama, galleta, pinyon ricegrass

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 9 inches; extremely cobbly coarse sandy loam

Bt—9 to 16 inches; very gravelly sandy clay loam

2R—16 to 60 inches; bedrock

Wauquie soils

Landscape: Mountains

Landform: Benches, mountain slopes, canyons, hills, mesas

Position on landform: Footslopes

Position on landform: Mountainflank

Parent material: Slope alluvium over residuum weathered from granite

Slope: 25 to 55 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 1.4 inches (very low)

Shrink-swell potential: About 2.3 percent (low)

Runoff class: High

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Juniperus monosperma-Pinus edulis/Fallugia paradoxa-

Chrysothamnus nauseosus/Bouteloua hirsuta-Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: skunkbush sumac, Gambel oak, bluegrass, bottlebrush squirreltail, mountain big sagebrush, mountain mahogany, mountain muhly, pine dropseed, pinyon ricegrass, prairie junegrass

Land capability subclass (nonirrigated): 7e

Typical Profile:

- A—0 to 4 inches; extremely cobbly fine sandy loam
- Bt1—4 to 11 inches; extremely cobbly sandy clay loam
- Bt2—11 to 18 inches; extremely cobbly sandy clay loam
- Bt3—18 to 29 inches; extremely cobbly sandy loam
- Bk—29 to 60 inches; extremely cobbly sand

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Escarpments, hills

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Minor Components

Osha and similar soils

Composition: About 10 percent

Slope: 35 to 55 percent

Drainage class: Somewhat excessively drained

Ecological site: Pinus ponderosa/Quercus gambelii

420—Pinavetes loamy sand, 1 to 3 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 5,200 to 6,000 feet (1,585 to 1,829 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Pinavetes and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Pinavetes soils**

Landscape: Uplands

Landform: Dunes, valley sides

Position on landform: Shoulders

Position on landform: Side slope

Parent material: Eolian sands derived from sandstone

Slope: 1 to 3 percent

Aspect: East to west

Shape (down/across): Convex/convex

Depth class: Very deep

Drainage class: Excessively drained

Slowest permeability: 6.0 to 20 in./hr. (rapid)

Available water capacity: About 2.7 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very low

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Deep Sand

Potential native vegetation: Indian ricegrass, blue grama, sand sagebrush

Land capability subclass (irrigated): 3s

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 10 inches; loamy sand

C—10 to 60 inches; sand

Minor Components

Zia and similar soils

Composition: About 5 percent

Slope: 5 to 20 percent

Drainage class: Well drained

Ecological site: Sandy

El Rancho and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Drainage class: Well drained

Ecological site: Loamy

Pinavetes and similar soils

Composition: About 5 percent

Slope: 5 to 15 percent

Drainage class: Excessively drained

Ecological site: Deep Sand

421—Gilco loam, moderately saline, sodic, 0 to 1 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,100 to 5,500 feet (1,554 to 1,676 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Gilco, moderately saline, sodic and similar soils: 90 percent

Minor components: 10 percent

Component Descriptions

Gilco, moderately saline, sodic soils

Landscape: Valleys

Landform: Flood plains

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 0 to 1 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Moderately well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 9.0 inches (high)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Rare

Seasonal high water table depth: About 48 to 72 inches

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 16 mmhos/cm (moderately saline)

Sodium adsorption ratio maximum: About 30 (strongly sodic)

Ecological site: Salty Bottomland

Potential native vegetation: alkali sacaton, galleta, bottlebrush squirreltail, fourwing saltbush, greasewood

Land capability subclass (irrigated): 4s

Land capability subclass (nonirrigated): 7c

Typical Profile:

Ap—0 to 7 inches; loam

C1—7 to 19 inches; very fine sandy loam

C2—19 to 60 inches; stratified fine sandy loam to loam

Minor Components

Aga and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Jocity and similar soils

Composition: About 3 percent

Slope: 0 to 2 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Peralta and similar soils

Composition: About 2 percent

Slope: 0 to 2 percent

Drainage class: Somewhat poorly drained

Flooding hazard: Rare

Ecological site: Bottomland

422—Vessilla-Menefee-Orlie association, 0 to 30 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,100 to 7,200 feet (1,859 to 2,195 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Map Unit Composition

Vessilla and similar soils: 35 percent

Menefee and similar soils: 30 percent

Orlie and similar soils: 25 percent

Minor components: 10 percent

Component Descriptions

Vessilla soils

Landscape: Uplands

Landform: Ridges, breaks, mesas, hills

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Eolian deposits over slope alluvium over residuum weathered from sandstone

Slope: 5 to 30 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 4 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 1.8 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very high

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: Indian ricegrass, blue grama, mountain big sagebrush, oak, galleta, sideoats grama

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 1 inch; sandy loam

C—1 inch to 15 inches; sandy loam

R—15 to 60 inches; bedrock

Menefee soils

Landscape: Uplands

Landform: Hillslopes, mesas, mountainsides

Position on landform: Backslopes

Position on landform: Side slope

Parent material: Colluvium over residuum weathered from shale

Slope: 2 to 9 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very shallow and shallow

Depth to restrictive feature: 8 to 20 inches to bedrock (paralithic)

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 2.0 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Very high

Calcium carbonate maximum: About 15 percent

Gypsum maximum: About 1 percent

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Potential native vegetation:

Common trees: Rocky Mountain juniper, oneseed juniper, twoneedle pinyon

Other plants: blue grama, galleta, Gambel oak, big sagebrush, sideoats grama

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; clay loam

C—3 to 10 inches; clay loam

2Cr—10 to 60 inches; bedrock

Orlie soils

Landscape: Uplands

Landform: Mesas, valley sides, hills, cuevas

Position on landform: Footslopes

Position on landform: Side slope

Parent material: Eolian material and alluvium derived from sandstone and shale

Slope: 0 to 8 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 11.7 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 2 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: western wheatgrass, big sagebrush, galleta, Indian ricegrass, needle and thread, fourwing saltbush

Land capability subclass (nonirrigated): 6c

Typical Profile:

- A—0 to 4 inches; loam
- Bt—4 to 14 inches; silty clay loam
- C—14 to 60 inches; silty clay loam

Minor Components

Sparank and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Well drained

Flooding hazard: Occasional

Ecological site: Clayey Bottomland

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

423—Gilco loam, 1 to 4 percent slopes**Map Unit Setting**

Major Land Resource Area: 42

Elevation: 5,300 to 5,500 feet (1,615 to 1,676 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Gilco and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Gilco soils**

Landscape: Valleys

Landform: Flood plains

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 1 to 4 percent

Aspect: East to west

Shape (down/across): Concave/linear

Surface fragments: About 12 percent subrounded gravel

Depth class: Very deep

Drainage class: Moderately well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 9.6 inches (high)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Rare

Seasonal high water table depth: About 48 to 72 inches

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Bottomland

Potential native vegetation: giant sacaton, alkali sacaton, fourwing saltbush

Land capability subclass (irrigated): 4e

Land capability subclass (nonirrigated): 7e

Typical Profile:

Ap—0 to 8 inches; loam

C1—8 to 14 inches; loam

C2—14 to 60 inches; stratified fine sandy loam to silt loam

Minor Components

Peralta and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Drainage class: Somewhat poorly drained

Flooding hazard: Rare

Ecological site: Bottomland

Jocity and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Aga and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

426—Aga loam, moderately saline, sodic, 0 to 1 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,000 to 5,500 feet (1,524 to 1,676 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Aga, moderately saline, sodic and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Aga, moderately saline, sodic soils

Landscape: Valleys

Landform: Flood plains

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 0 to 1 percent
Aspect: East to west
Shape (down/across): Concave/linear
Depth class: Very deep
Drainage class: Moderately well drained
Slowest permeability: 0.6 to 2.0 in./hr. (moderate)
Available water capacity: About 5.0 inches (low)
Shrink-swell potential: About 1.5 percent (low)
Flooding hazard: Rare
Seasonal high water table depth: About 48 to 72 inches
Runoff class: Low
Calcium carbonate maximum: About 10 percent
Gypsum maximum: None
Salinity maximum: About 16 mmhos/cm (moderately saline)
Sodium adsorption ratio maximum: About 30 (strongly sodic)
Ecological site: Bottomland
Potential native vegetation: alkali sacaton, fourwing saltbush, giant sacaton, inland saltgrass, greasewood
Land capability subclass (irrigated): 4s
Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 8 inches; loam
 C1—8 to 20 inches; loam
 2C2—20 to 36 inches; loamy sand
 2C3—36 to 60 inches; gravelly sand

Minor Components

Gilco and similar soils

Composition: About 10 percent
Slope: 0 to 1 percent
Drainage class: Moderately well drained
Flooding hazard: Rare
Ecological site: Bottomland

Peralta and similar soils

Composition: About 5 percent
Slope: 0 to 2 percent
Drainage class: Somewhat poorly drained
Flooding hazard: Rare
Ecological site: Bottomland

427—Aga loam, 1 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 42
Elevation: 5,000 to 5,500 feet (1,524 to 1,676 meters)
Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)
Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)
Frost-free period: 140 to 160 days

Map Unit Composition

Aga and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Aga soils**

Landscape: Valleys

Landform: Flood plains

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 1 to 3 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Moderately well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 7.6 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Rare

Seasonal high water table depth: About 42 to 60 inches

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Bottomland

Potential native vegetation: giant sacaton, alkali sacaton, fourwing saltbush

Land capability subclass (irrigated): 2e

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 8 inches; loam

C1—8 to 28 inches; loam

2C2—28 to 60 inches; loamy fine sand

Minor Components

Gilco and similar soils

Composition: About 10 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Jocity and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

428—Aga loam, moderately saline, sodic, 1 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,200 to 5,500 feet (1,585 to 1,676 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Aga, moderately saline, sodic and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Aga, moderately saline, sodic soils

Landscape: Valleys

Landform: Flood plains

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 1 to 3 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Moderately well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 5.5 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Rare

Seasonal high water table depth: About 48 to 72 inches

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 16 mmhos/cm (moderately saline)

Sodium adsorption ratio maximum: About 30 (strongly sodic)

Ecological site: Salty Bottomland

Potential native vegetation: alkali sacaton, fourwing saltbush, giant sacaton, inland saltgrass, greasewood

Land capability subclass (irrigated): 4s

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 4 inches; loam

C1—4 to 16 inches; very fine sandy loam

2C2—16 to 22 inches; loam

2C3—22 to 60 inches; stratified sand to loamy sand

Minor Components

Peralta and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Drainage class: Somewhat poorly drained

Flooding hazard: Rare

Ecological site: Bottomland

Gilco and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Jocity and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

430—Trail loam, 1 to 3 percent slopes**Map Unit Setting**

Major Land Resource Area: 42

Elevation: 5,000 to 5,500 feet (1,524 to 1,676 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Trail and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Trail soils**

Landscape: Valleys

Landform: Flood plains, valley floor remnants, channels, alluvial fans

Position on landform: Toeslopes

Position on landform: Rise, base slope

Parent material: Eolian deposits over stream alluvium derived from sandstone

Slope: 1 to 3 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Somewhat excessively drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 4.4 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Rare

Runoff class: Very low

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Bottomland

Potential native vegetation: alkali sacaton, giant sacaton, fourwing saltbush

Land capability subclass (irrigated): 4e

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 10 inches; loam

C1—10 to 34 inches; loamy sand

C2—34 to 60 inches; stratified sand to fine sandy loam

Minor Components

Aga and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Peralta and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Drainage class: Somewhat poorly drained

Flooding hazard: Rare

Ecological site: Bottomland

Gilco and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

431—Trail loamy sand, 1 to 4 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,000 to 5,500 feet (1,524 to 1,676 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Trail and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Trail soils

Landscape: Valleys

Landform: Valley floor remnants, flood plains, channels, alluvial fans

Position on landform: Toeslopes

Position on landform: Base slope, rise

Parent material: Eolian deposits over stream alluvium derived from sandstone

Slope: 1 to 4 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Moderately well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 5.1 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Rare

Runoff class: Very low

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Deep Sand

Potential native vegetation: Indian ricegrass, black grama, sand sagebrush, dropseed

Land capability subclass (irrigated): 4e

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 10 inches; loamy sand

C—10 to 60 inches; stratified loamy sand to sand to gravelly sand to fine sandy loam

Minor Components

El Rancho and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Drainage class: Well drained

Ecological site: Loamy

Aga and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Riverwash

Composition: About 3 percent

Landscape: Valleys

Landform: Streams, channels

Position on landform: Toeslopes

Position on landform: Base slope

Slope: 0 to 3 percent

Shape (down/across): Concave/linear

Drainage class: Somewhat poorly drained

Flooding hazard: Frequent

Zia and similar soils

Composition: About 2 percent

Slope: 1 to 9 percent

Drainage class: Well drained

Ecological site: Sandy

433—Peralta loam, 0 to 1 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,000 to 5,500 feet (1,524 to 1,676 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Peralta and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Peralta soils

Landscape: Valleys

Landform: Flood plains

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 0 to 1 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Somewhat poorly drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 8.6 inches (moderate)

Shrink-swell potential: About 1.8 percent (low)

Flooding hazard: Rare

Seasonal high water table depth: About 24 to 36 inches

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 8 mmhos/cm (slightly saline)

Sodium adsorption ratio maximum: About 13 (moderately sodic)

Ecological site: Bottomland

Potential native vegetation: giant sacaton, alkali sacaton, fourwing saltbush

Land capability subclass (irrigated): 3e

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 10 inches; loam

C—10 to 60 inches; stratified very fine sandy loam to fine sandy loam to loamy fine sand

Minor Components

Aga and similar soils

Composition: About 10 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Gilco and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

434—Peralta loam, 1 to 3 percent slopes**Map Unit Setting**

Major Land Resource Area: 42

Elevation: 5,000 to 5,400 feet (1,524 to 1,646 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Peralta and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Peralta soils**

Landscape: Valleys

Landform: Flood plains

Position on landform: Toeslopes, base slopes

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 1 to 3 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Somewhat poorly drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 7.8 inches (moderate)

Shrink-swell potential: About 2.3 percent (low)

Flooding hazard: Rare

Seasonal high water table depth: About 24 to 36 inches

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 8 mmhos/cm (slightly saline)

Sodium adsorption ratio maximum: About 13 (moderately sodic)

Ecological site: Bottomland

Potential native vegetation: giant sacaton, alkali sacaton, fourwing saltbush

Land capability subclass (irrigated): 3e

Land capability subclass (nonirrigated): 7c

Typical Profile:

- Ap—0 to 10 inches; loam
- C1—10 to 16 inches; very fine sandy loam
- C2—16 to 20 inches; clay loam
- C3—20 to 28 inches; fine sandy loam
- C4—28 to 40 inches; loamy sand
- C5—40 to 45 inches; silt loam
- C6—45 to 60 inches; loamy fine sand

Minor Components

Aga and similar soils

Composition: About 10 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Gilco and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

437—Peralta loam, moderately saline, sodic, 1 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,000 to 5,400 feet (1,524 to 1,646 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Peralta, moderately saline, sodic and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Peralta, moderately saline, sodic soils

Landscape: Valleys

Landform: Flood plains

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 1 to 3 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Somewhat poorly drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 8.4 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Rare

Seasonal high water table depth: About 24 to 36 inches

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 16 mmhos/cm (moderately saline)

Sodium adsorption ratio maximum: About 30 (strongly sodic)

Ecological site: Salty Bottomland

Potential native vegetation: alkali sacaton, fourwing saltbush, giant sacaton, inland saltgrass, greasewood

Land capability subclass (irrigated): 4s

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 4 inches; loam

C—4 to 60 inches; stratified loam to fine sandy loam to loamy sand

Minor Components

Aga and similar soils

Composition: About 10 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Gilco and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

500—Rock outcrop-Osha-Rubble land complex, 40 to 70 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 7,000 to 9,000 feet (2,134 to 2,743 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Rock outcrop: 40 percent

Osha and similar soils: 30 percent

Rubble land: 20 percent

Minor components: 10 percent

Component Descriptions

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Ledges, escarpments, benches
Aspect: East to west
Depth to restrictive feature: 0 inches to bedrock (lithic)
Land capability subclass (nonirrigated): 8s

Osha soils

Landscape: Mountains
Landform: Mountain slopes, ridges
Position on landform: Backslopes
Position on landform: Mountainflank, crest
Parent material: Colluvium over residuum weathered from granite
Slope: 40 to 70 percent
Aspect: East to west
Shape (down/across): Linear/linear
Depth class: Deep
Depth to restrictive feature: 40 to 60 inches to bedrock (lithic)
Drainage class: Somewhat excessively drained
Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)
Available water capacity: About 1.4 inches (very low)
Shrink-swell potential: About 1.5 percent (low)
Runoff class: Medium
Calcium carbonate maximum: None
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Pinus ponderosa/Quercus gambelii
Potential native vegetation:
 Common trees: ponderosa pine
 Other plants: Gambel oak, blue grama, New Mexico locust, Rocky Mountain juniper, mountain muhly, prairie junegrass, skunkbush sumac, wavyleaf oak
Land capability subclass (nonirrigated): 7c

Typical Profile:

AB—0 to 10 inches; very gravelly coarse sandy loam
 Bw—10 to 20 inches; very gravelly coarse sandy loam
 Ct—20 to 43 inches; extremely gravelly loamy coarse sand
 R—43 to 60 inches; bedrock

Rubble land

Description: Rubble land consists of areas with 90 percent or more of the surface covered with cobbles, stones, and boulders.
Landform: Hills
Position on landform: Side slope
Slope: 40 to 70 percent
Aspect: East to west
Drainage class: Excessively drained
Available water capacity: About 0.6 inches (very low)
Shrink-swell potential: About 1.5 percent (low)
Runoff class: Low
Calcium carbonate maximum: None
Gypsum maximum: None
Salinity maximum: About 0 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Land capability subclass (nonirrigated): 8s

Minor Components

Cypher and similar soils

Composition: About 5 percent

Slope: 15 to 35 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Pinus ponderosa/Quercus gambelii

Palon and similar soils

Composition: About 5 percent

Slope: 15 to 35 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

503—Cajete-Cypher association, 8 to 50 percent slopes**Map Unit Setting**

Major Land Resource Area: 48A

Elevation: 7,000 to 7,300 feet (2,134 to 2,225 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Cajete and similar soils: 65 percent

Cypher and similar soils: 25 percent

Minor components: 10 percent

Component Descriptions**Cajete soils**

Landscape: Mountains

Landform: Hills, mountain slopes

Position on landform: Backslopes

Position on landform: Mountainflank, upper third, crest

Parent material: Residuum weathered from pumice

Slope: 8 to 30 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 3.3 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus ponderosa/Quercus gambelii

Potential native vegetation:

Common trees: ponderosa pine

Other plants: Arizona fescue, Kentucky bluegrass, Thurber fescue, bluegrass, common juniper, mountain muhly, needlegrass, pine dropseed, sedge, western wheatgrass

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 8 inches; extremely gravelly coarse sandy loam

C—8 to 60 inches; very gravelly sandy loam

Cypher soils

Landscape: Mountains

Landform: Ridges, mountain slopes

Position on landform: Backslopes

Position on landform: Mountainflank

Parent material: Colluvium derived from tuff over residuum weathered from rhyolite

Slope: 30 to 50 percent

Aspect: East to west

Shape (down/across): Linear/linear

Surface fragments: About 2 percent subrounded cobbles

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 0.8 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very high

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus ponderosa/Quercus gambelii

Potential native vegetation:

Common trees: ponderosa pine

Other plants: Arizona fescue, little bluestem, mountain muhly, California brome, big bluestem, sideoats grama

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 3 inches; very gravelly loam

BC1—3 to 11 inches; very gravelly sandy loam

BC2—11 to 15 inches; extremely gravelly sandy loam

2R—15 to 60 inches; bedrock

Minor Components

Laventana and similar soils

Composition: About 5 percent

Slope: 3 to 15 percent

Depth to restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: ponderosa forest

Mirand and similar soils*Composition:* About 3 percent*Slope:* 5 to 30 percent*Drainage class:* Well drained*Ecological site:* Pinus ponderosa/Quercus gambelii**Rock outcrop***Composition:* About 2 percent*Depth to restrictive feature:* 0 inches to bedrock (lithic)**504—Orejas-Guaje complex, 1 to 15 percent slopes****Map Unit Setting***Major Land Resource Area:* 36*Elevation:* 6,000 to 7,000 feet (1,829 to 2,134 meters)*Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 48 to 52 degrees F. (8.9 to 11.1 degrees C.)*Frost-free period:* 110 to 130 days**Map Unit Composition**

Orejas and similar soils: 40 percent

Guaje and similar soils: 35 percent

Minor components: 25 percent

Component Descriptions**Orejas soils***Landscape:* Uplands*Landform:* Plateaus, mesas*Position on landform:* Summits*Position on landform:* Side slope*Parent material:* Eolian material, slope alluvium and colluvium derived from basalt*Slope:* 5 to 15 percent*Aspect:* East to west*Shape (down/across):* Convex/linear*Depth class:* Shallow*Depth to restrictive feature:* 10 to 20 inches to bedrock (lithic)*Drainage class:* Well drained*Slowest permeability:* 0.2 to 0.6 in./hr. (moderately slow)*Available water capacity:* About 1.7 inches (very low)*Shrink-swell potential:* About 4.5 percent (moderate)*Runoff class:* Very high*Calcium carbonate maximum:* About 10 percent*Gypsum maximum:* None*Salinity maximum:* About 2 mmhos/cm (nonsaline)*Sodium adsorption ratio maximum:* About 5 (slightly sodic)*Ecological site:* Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis*Potential native vegetation:*

Common trees: twoneedle pinyon, oneseed juniper

Other plants: big sagebrush, blue grama, sideoats grama

Land capability subclass (nonirrigated): 7s

Typical Profile:

- A—0 to 2 inches; very cobbly loam
- Bt—2 to 9 inches; very cobbly clay loam
- C—9 to 17 inches; very gravelly clay loam
- R—17 to 60 inches; bedrock

Guaje soils*Landscape:* Uplands*Landform:* Hills, volcanic cones*Position on landform:* Backslopes*Position on landform:* Side slope*Parent material:* Eolian material and alluvium derived from volcanic rock*Slope:* 1 to 8 percent*Aspect:* East to west*Shape (down/across):* Linear/linear*Surface fragments:* About 20 percent subrounded gravel*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* 2.0 to 6.0 in./hr. (moderately rapid)*Available water capacity:* About 3.1 inches (low)*Shrink-swell potential:* About 1.5 percent (low)*Runoff class:* Low*Calcium carbonate maximum:* About 20 percent*Gypsum maximum:* None*Salinity maximum:* About 2 mmhos/cm (nonsaline)*Sodium adsorption ratio maximum:* About 5 (slightly sodic)*Ecological site:* Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis*Potential native vegetation:*

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, galleta, sideoats grama, New Mexico Feathergrass, little bluestem, mountain muhly, pine dropseed, sand dropseed

Land capability subclass (nonirrigated): 6s*Typical Profile:*

- A—0 to 4 inches; gravelly sandy loam
- Bw—4 to 12 inches; gravelly sandy loam
- Bk1—12 to 17 inches; very gravelly sandy loam
- Bk2—17 to 45 inches; extremely gravelly sandy loam
- Bk3—45 to 60 inches; very gravelly sandy loam

Minor Components

Elpedro and similar soils

Composition: About 10 percent*Slope:* 1 to 8 percent*Drainage class:* Well drained*Ecological site:* pinyon-juniper forest

Guaje, very cobbly and similar soils

Composition: About 10 percent*Slope:* 1 to 8 percent*Drainage class:* Well drained*Ecological site:* pinyon-juniper forest

Orejas, steep and similar soils

Composition: About 5 percent

Slope: 15 to 40 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: pinyon-juniper forest

600—Rock outcrop-Cypher complex, 35 to 60 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 6,500 to 7,400 feet (1,981 to 2,256 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Rock outcrop: 50 percent

Cypher and similar soils: 35 percent

Minor components: 15 percent

Component Descriptions

Rock outcrop

Description: Rock outcrop consists of barren or nearly barren areas of bedrock as benches, ledges, and escarpments.

Landform: Mountain slopes, scarps

Aspect: East to west

Depth to restrictive feature: 0 inches to bedrock (lithic)

Land capability subclass (nonirrigated): 8s

Cypher soils

Landscape: Mountains

Landform: Mountain slopes, ridges

Position on landform: Backslopes, mountainflanks

Parent material: Colluvium and residuum weathered from tuff and/or colluvium and residuum weathered from rhyolite

Slope: 35 to 60 percent

Aspect: East to west

Shape (down/across): Linear/linear

Surface fragments: About 3 percent subrounded gravel

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 1.5 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very high

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus ponderosa/Quercus gambelii

Potential native vegetation:

Common trees: ponderosa pine

Other plants: Arizona fescue, California brome, little bluestem, mountain muhly

*Land capability subclass (nonirrigated): 7c**Typical Profile:*

A—0 to 4 inches; very cobbly loam

BC1—4 to 14 inches; very gravelly loam

BC2—14 to 16 inches; very gravelly loam

2R—16 to 60 inches; bedrock

Minor Components

Cypher and similar soils

Composition: About 5 percent*Slope:* 15 to 35 percent*Depth to restrictive feature:* 10 to 20 inches to bedrock (lithic)*Drainage class:* Well drained*Ecological site:* Pinus ponderosa/Quercus gambelii

Cajete and similar soils

Composition: About 5 percent*Slope:* 8 to 30 percent*Drainage class:* Well drained*Ecological site:* Mountain Grassland

Laventana and similar soils

Composition: About 3 percent*Slope:* 3 to 15 percent*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)*Drainage class:* Well drained*Ecological site:* Pinus ponderosa/Quercus gambelii

Rock outcrop

Composition: About 2 percent*Depth to restrictive feature:* 0 inches to bedrock (lithic)**601—Laventana gravelly sandy loam, 3 to 15 percent slopes****Map Unit Setting***Major Land Resource Area:* 48A*Elevation:* 7,400 to 7,600 feet (2,256 to 2,316 meters)*Mean annual precipitation:* 20 to 25 inches (508 to 635 millimeters)*Mean annual air temperature:* 42 to 45 degrees F. (5.6 to 7.2 degrees C.)*Frost-free period:* 60 to 90 days**Map Unit Composition**

Laventana and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Laventana soils

Landscape: Mountains

Landform: Pediments, mountain slopes

Position on landform: Footslopes

Position on landform: Mountainflank

Parent material: Colluvium derived from granite and/or colluvium derived from andesite

Slope: 3 to 15 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Deep

Depth to restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 4.1 inches (low)

Shrink-swell potential: About 4.4 percent (moderate)

Runoff class: Medium

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus ponderosa/Quercus gambelii

Potential native vegetation:

Common trees: ponderosa pine

Other plants: Gambel oak, mountain mahogany, bottlebrush squirreltail, prairie junegrass, sedge

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 5 inches; gravelly sandy loam

E—5 to 9 inches; very gravelly loam

Bt—9 to 50 inches; very gravelly sandy clay loam

2R—50 to 60 inches; bedrock

Minor Components

Mirand and similar soils

Composition: About 10 percent

Slope: 5 to 30 percent

Drainage class: Well drained

Ecological site: Pinus ponderosa/Quercus gambelii

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

603—Laventana-Mirand very cobbly loams, 15 to 55 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 7,000 to 8,900 feet (2,134 to 2,713 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Laventana and similar soils: 50 percent

Mirand and similar soils: 35 percent

Minor components: 15 percent

Component Descriptions

Laventana soils

Landscape: Mountains

Landform: Pediments, mountain slopes

Position on landform: Footslopes

Position on landform: Mountainflank

Parent material: Colluvium derived from granite and/or colluvium derived from andesite

Slope: 20 to 55 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Deep

Depth to restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 4.8 inches (low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus ponderosa/Quercus gambelii

Potential native vegetation:

Common trees: ponderosa pine

Other plants: Gambel oak, mountain mahogany, bottlebrush squirreltail, prairie junegrass, sedge

Land capability subclass (nonirrigated): 7c

Typical Profile:

Oi—0 to 1 inch; slightly decomposed plant material

A—1 inch to 5 inches; very cobbly loam

E—5 to 12 inches; gravelly silt loam

Bt1—12 to 20 inches; very cobbly loam

Bt2—20 to 31 inches; very gravelly loam

Bt3—31 to 51 inches; very gravelly loam

2R—51 to 60 inches; bedrock

Mirand soils

Landscape: Mountains

Landform: Mountain slopes

Position on landform: Toeslopes

Position on landform: Mountainflank

Parent material: Colluvium derived from rhyolite and/or colluvium derived from tuff

Slope: 15 to 25 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 8.0 inches (moderate)

Shrink-swell potential: About 7.4 percent (high)

Runoff class: Very high

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus ponderosa/Quercus gambelii

Potential native vegetation:

Common trees: ponderosa pine

Other plants: Arizona fescue, mountain muhly, prairie junegrass, California brome, Gambel oak, bottlebrush squirreltail, muttongrass, pine dropseed

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 6 inches; very cobbly loam

Bt1—6 to 27 inches; cobbly clay

Bt2—27 to 60 inches; sandy clay

Minor Components

Cypher and similar soils

Composition: About 5 percent

Slope: 15 to 35 percent

Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Pinus ponderosa/Quercus gambelii

Cajete and similar soils

Composition: About 5 percent

Slope: 8 to 30 percent

Drainage class: Well drained

Ecological site: Mountain Grassland

Rock outcrop

Composition: About 3 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

Totavi and similar soils

Composition: About 2 percent

Slope: 0 to 5 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Pinus ponderosa-Juniperus deppeana/Quercus gambelii

604—Cypher-Mirand complex, 15 to 55 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 6,900 to 9,000 feet (2,103 to 2,743 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Cypher and similar soils: 55 percent

Mirand and similar soils: 30 percent

Minor components: 15 percent

Component Descriptions

Cypher soils

Landscape: Mountains

Landform: Mountain slopes, ridges

Position on landform: Summits

Position on landform: Mountainflank

Parent material: Colluvium derived from tuff over residuum weathered from rhyolite

Slope: 15 to 35 percent

Aspect: East to west

Shape (down/across): Linear/linear

Surface fragments: About 10 percent subrounded gravel

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock (lithic)

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 1.5 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: High

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus ponderosa/Quercus gambelii

Potential native vegetation:

Common trees: ponderosa pine

Other plants: Arizona fescue, little bluestem, mountain muhly, California brome, big bluestem, sideoats grama

Land capability subclass (nonirrigated): 7c

Typical Profile:

Oi—0 to 1 inch; slightly decomposed plant material

A—1 inch to 4 inches; very gravelly loam

BCw—4 to 11 inches; very gravelly loam

C—11 to 19 inches; extremely gravelly sandy loam

2R—19 to 60 inches; bedrock

Mirand soils

Landscape: Mountains

Landform: Mountain slopes

Position on landform: Toeslopes

Position on landform: Mountainflank

Parent material: Colluvium derived from rhyolite and/or colluvium derived from tuff

Slope: 15 to 55 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Available water capacity: About 6.4 inches (moderate)

Shrink-swell potential: About 7.5 percent (high)

Runoff class: High

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus ponderosa/Quercus gambelii

Potential native vegetation:

Common trees: ponderosa pine

Other plants: Arizona fescue, mountain muhly, California brome, Gambel oak, bottlebrush squirreltail, muttongrass, pine dropseed, prairie junegrass

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 4 inches; very cobbly loam

Bt—4 to 60 inches; cobbly clay

Minor Components

Alanos and similar soils

Composition: About 5 percent

Slope: 20 to 40 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Laventana and similar soils

Composition: About 5 percent

Slope: 3 to 15 percent

Depth to restrictive feature: 40 to 60 inches to bedrock (lithic)

Drainage class: Well drained

Ecological site: Pinus ponderosa/Quercus gambelii

Rock outcrop

Composition: About 3 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

Totavi and similar soils

Composition: About 2 percent

Slope: 0 to 5 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Pinus ponderosa-Juniperus deppeana/Quercus gambelii

608—Osha association, 3 to 55 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 8,500 to 9,000 feet (2,591 to 2,743 meters)

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Map Unit Composition

Osha, steep and similar soils: 60 percent

Osha and similar soils: 30 percent

Minor components: 10 percent

Component Descriptions

Osha, steep soils

Landscape: Mountains

Landform: Mountain slopes, ridges

Position on landform: Backslopes

Position on landform: Mountainflank

Parent material: Colluvium over residuum weathered from granite

Slope: 35 to 55 percent

Aspect: East to west

Shape (down/across): Linear/linear

Depth class: Very deep

Drainage class: Somewhat excessively drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 1.8 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus ponderosa/Quercus gambelii

Potential native vegetation:

Common trees: ponderosa pine

Other plants: Arizona fescue, pine dropseed, prairie junegrass, Gambel oak, New

Mexico locust, bluegrass, mountain muhly

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 3 inches; gravelly coarse sandy loam

AB—3 to 8 inches; gravelly coarse sandy loam

Bw—8 to 16 inches; gravelly coarse sandy loam

Ct1—16 to 32 inches; extremely gravelly coarse sandy loam

Ct2—32 to 60 inches; extremely gravelly loamy coarse sand

Osha soils

Landscape: Mountains

Landform: Ridges, mountain slopes

Position on landform: Shoulders

Position on landform: Mountainflank

Parent material: Colluvium and residuum weathered from granite

Slope: 3 to 35 percent

Aspect: East to west

Shape (down/across): Convex/linear

Depth class: Very deep

Drainage class: Somewhat excessively drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 2.2 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate maximum: None

Gypsum maximum: None

Salinity maximum: About 2 mmhos/cm (nonsaline)

Sodium adsorption ratio maximum: About 0 (nonsodic)

Ecological site: Pinus ponderosa/Quercus gambelii

Potential native vegetation:

Common trees: ponderosa pine

Other plants: Arizona fescue, Gambel oak, New Mexico locust, bluegrass, grouse
whortleberry, mountain muhly, pine dropseed, prairie junegrass

Land capability subclass (nonirrigated): 7c

Typical Profile:

AB—0 to 8 inches; gravelly coarse sandy loam

Bw—8 to 16 inches; gravelly coarse sandy loam

Ct1—16 to 32 inches; extremely gravelly coarse sandy loam

Ct2—32 to 60 inches; extremely gravelly loamy coarse sand

Minor Components

Palon and similar soils

Composition: About 8 percent

Slope: 15 to 35 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Muhlenbergia

Rock outcrop

Composition: About 2 percent

Depth to restrictive feature: 0 inches to bedrock (lithic)

823—Gilco loam, 1 to 4 percent slopes, unprotected

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,000 to 5,500 feet (1,524 to 1,676 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Gilco, unprotected and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Gilco, unprotected soils

Landscape: Valleys

Landform: Flood plains

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 1 to 4 percent

Aspect: East to west

Shape (down/across): Concave/linear

Surface fragments: About 12 percent subrounded medium and coarse gravel

Depth class: Very deep

Drainage class: Moderately well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 9.4 inches (high)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Rare

Seasonal high water table depth: About 48 to 72 inches

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Bottomland

Potential native vegetation:

Common trees: Rio Grande cottonwood

Other plants: giant sacaton, alkali sacaton, fourwing saltbush

Land capability subclass (irrigated): 4e

Land capability subclass (nonirrigated): 7e

Typical Profile:

Ap—0 to 8 inches; loam

C—8 to 60 inches; stratified fine sandy loam to loam to silt loam

Minor Components

Jocity and similar soils

Composition: About 6 percent

Slope: 0 to 2 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Aga and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Peralta and similar soils*Composition:* About 2 percent*Slope:* 1 to 3 percent*Drainage class:* Somewhat poorly drained*Flooding hazard:* Rare*Ecological site:* Bottomland**Trail and similar soils***Composition:* About 2 percent*Slope:* 1 to 3 percent*Drainage class:* Somewhat excessively drained*Flooding hazard:* Rare*Ecological site:* Bottomland**827—Aga loam, 1 to 3 percent slopes, unprotected****Map Unit Setting***Major Land Resource Area:* 42*Elevation:* 5,000 to 5,500 feet (1,524 to 1,676 meters)*Mean annual precipitation:* 8 to 10 inches (203 to 254 millimeters)*Mean annual air temperature:* 53 to 55 degrees F. (11.7 to 12.8 degrees C.)*Frost-free period:* 140 to 160 days**Map Unit Composition**

Aga, unprotected and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Aga, unprotected soils***Landscape:* Valleys*Landform:* Flood plains*Position on landform:* Toeslopes*Position on landform:* Base slope*Parent material:* Stream alluvium derived from igneous and sedimentary rock*Slope:* 1 to 3 percent*Aspect:* East to west*Shape (down/across):* Concave/linear*Depth class:* Very deep*Drainage class:* Moderately well drained*Slowest permeability:* 0.6 to 2.0 in./hr. (moderate)*Available water capacity:* About 7.6 inches (moderate)*Shrink-swell potential:* About 1.5 percent (low)*Flooding hazard:* Rare*Seasonal high water table depth:* About 42 to 60 inches*Runoff class:* Low*Calcium carbonate maximum:* About 10 percent*Gypsum maximum:* None*Salinity maximum:* About 4 mmhos/cm (very slightly saline)*Sodium adsorption ratio maximum:* About 5 (slightly sodic)*Ecological site:* Bottomland*Potential native vegetation:* giant sacaton, alkali sacaton, fourwing saltbush*Land capability subclass (irrigated):* 2e*Land capability subclass (nonirrigated):* 7c

Typical Profile:

- A—0 to 8 inches; loam
- C1—8 to 28 inches; loam
- 2C2—28 to 60 inches; loamy fine sand

Minor Components

Gilco and similar soils

- Composition:* About 5 percent
- Slope:* 0 to 1 percent
- Drainage class:* Moderately well drained
- Flooding hazard:* Rare
- Ecological site:* Bottomland

Jocity and similar soils

- Composition:* About 3 percent
- Slope:* 0 to 2 percent
- Drainage class:* Moderately well drained
- Flooding hazard:* Rare
- Ecological site:* Bottomland

Riverwash

- Composition:* About 3 percent
- Landscape:* Valleys
- Landform:* Channels, streams
- Position on landform:* Toeslopes
- Position on landform:* Base slope
- Slope:* 0 to 1 percent
- Shape (down/across):* Concave/linear
- Drainage class:* Somewhat poorly drained
- Flooding hazard:* Frequent

Peralta and similar soils

- Composition:* About 2 percent
- Slope:* 0 to 1 percent
- Drainage class:* Somewhat poorly drained
- Flooding hazard:* Rare
- Ecological site:* Bottomland

Trail and similar soils

- Composition:* About 2 percent
- Slope:* 0 to 1 percent
- Drainage class:* Well drained
- Flooding hazard:* Rare
- Ecological site:* Bottomland

830—Trail loam, 1 to 3 percent slopes, unprotected**Map Unit Setting**

Major Land Resource Area: 42

Elevation: 5,000 to 5,500 feet (1,524 to 1,676 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.7 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Trail, unprotected and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Trail, unprotected soils**

Landscape: Valleys

Landform: Valley floor remnants, alluvial fans, channels, flood plains

Position on landform: Toeslopes

Position on landform: Base slope, rise

Parent material: Eolian deposits over stream alluvium derived from sandstone

Slope: 1 to 3 percent

Aspect: East to west

Shape (down/across): Linear, concave/linear

Depth class: Very deep

Drainage class: Moderately well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Available water capacity: About 5.4 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Rare

Seasonal high water table depth: About 48 to 72 inches

Runoff class: Very low

Calcium carbonate maximum: About 5 percent

Gypsum maximum: None

Salinity maximum: About 4 mmhos/cm (very slightly saline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Bottomland

Potential native vegetation: alkali sacaton, giant sacaton, fourwing saltbush

Land capability subclass (irrigated): 4e

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 8 inches; loam

C—8 to 60 inches; stratified loamy sand to sand to sandy loam

Minor Components

Gilco and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Aga and similar soils

Composition: About 5 percent

Slope: 1 to 3 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Riverwash

Composition: About 3 percent
Landscape: Valleys
Landform: Channels, streams
Position on landform: Toeslopes, base slopes
Slope: 0 to 1 percent
Shape (down/across): Concave/linear
Drainage class: Somewhat poorly drained
Flooding hazard: Frequent

Peralta and similar soils

Composition: About 2 percent
Slope: 0 to 1 percent
Drainage class: Somewhat poorly drained
Flooding hazard: Rare
Ecological site: Bottomland

831—Trail loamy sand, 1 to 3 percent slopes, unprotected**Map Unit Setting**

Major Land Resource Area: 42
Elevation: 5,000 to 5,500 feet (1,524 to 1,676 meters)
Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)
Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)
Frost-free period: 140 to 160 days

Map Unit Composition

Trail, unprotected and similar soils: 85 percent
 Minor components: 15 percent

Component Descriptions**Trail, unprotected soils**

Landscape: Valleys
Landform: Alluvial fans, channels, flood plains, valley floor remnants
Position on landform: Toeslopes
Position on landform: Rise, base slope
Parent material: Eolian deposits over stream alluvium derived from sandstone
Slope: 1 to 3 percent
Aspect: East to west
Shape (down/across): Concave, linear/linear
Depth class: Very deep
Drainage class: Moderately well drained
Slowest permeability: 6.0 to 20 in./hr. (rapid)
Available water capacity: About 3.3 inches (low)
Shrink-swell potential: About 1.5 percent (low)
Flooding hazard: Rare
Seasonal high water table depth: About 48 to 72 inches
Runoff class: Very low
Calcium carbonate maximum: About 5 percent
Gypsum maximum: None
Salinity maximum: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio maximum: About 5 (slightly sodic)
Ecological site: Bottomland

Potential native vegetation: alkali sacaton, giant sacaton, fourwing saltbush

Land capability subclass (irrigated): 4s

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 10 inches; loamy sand

C1—10 to 30 inches; loamy sand

C2—30 to 60 inches; stratified sand to gravelly sand to sandy loam

Minor Components

Aga and similar soils

Composition: About 5 percent

Slope: 1 to 3 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Gilco and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Riverwash

Composition: About 3 percent

Landscape: Valleys

Landform: Streams, channels

Position on landform: Toeslopes, base slopes

Slope: 0 to 1 percent

Shape (down/across): Concave/linear

Drainage class: Somewhat poorly drained

Flooding hazard: Frequent

Peralta and similar soils

Composition: About 2 percent

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Flooding hazard: Rare

Ecological site: Bottomland

835—Peralta loam, 1 to 3 percent slopes, unprotected

Map Unit Setting

Major Land Resource Area: 42

Elevation: 5,000 to 5,500 feet (1,524 to 1,676 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Peralta, unprotected, and similar soils: 85 percent

Minor components: 15 percent



Figure 10.—Typical landscape of Peralta loam, 1 to 3 percent slopes, unprotected.

Component Descriptions

Peralta, unprotected soils

Landscape: Valleys

Landform: Flood plains

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 1 to 3 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Somewhat poorly drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Available water capacity: About 9.2 inches (high)

Shrink-swell potential: About 3.8 percent (moderate)

Flooding hazard: Occasional

Seasonal high water table depth: About 24 to 36 inches

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 8 mmhos/cm (slightly saline)

Sodium adsorption ratio maximum: About 5 (slightly sodic)

Ecological site: Bottomland

Potential native vegetation:

Common trees: Rio Grande cottonwood

Other plants: giant sacaton, alkali sacaton, fourwing saltbush, willow

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 6 inches; loam

C—6 to 16 inches; loam

C—16 to 60 inches; stratified sandy loam to clay loam

Minor Components

Gilco and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Aga and similar soils

Composition: About 5 percent

Slope: 1 to 3 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Riverwash

Composition: About 3 percent

Landscape: Valleys

Landform: Channels, streams

Position on landform: Toeslopes

Position on landform: Base slope

Slope: 0 to 1 percent

Shape (down/across): Concave/linear

Drainage class: Somewhat poorly drained

Flooding hazard: Frequent

Trail and similar soils

Composition: About 2 percent

Slope: 0 to 1 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Bottomland

842—Peralta clay loam, moderately saline, sodic, 0 to 2 percent slopes, unprotected**Map Unit Setting**

Major Land Resource Area: 42

Elevation: 5,000 to 5,500 feet (1,524 to 1,676 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Peralta, moderately saline, sodic, unprotected and similar soils: 85 percent
 Minor components: 15 percent

Component Descriptions

Peralta, moderately saline, sodic, unprotected soils

Landscape: Valleys

Landform: Flood plains

Position on landform: Toeslopes

Position on landform: Base slope

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 0 to 2 percent

Aspect: East to west

Shape (down/across): Concave/linear

Depth class: Very deep

Drainage class: Somewhat poorly drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Available water capacity: About 9.4 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Flooding hazard: Rare

Seasonal high water table depth: About 24 to 36 inches

Runoff class: Low

Calcium carbonate maximum: About 10 percent

Gypsum maximum: None

Salinity maximum: About 16 mmhos/cm (moderately saline)

Sodium adsorption ratio maximum: About 30 (strongly sodic)

Ecological site: Salty Bottomland

Potential native vegetation: alkali sacaton, fourwing saltbush, giant sacaton, inland saltgrass, greasewood

Land capability subclass (irrigated): 4s

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 10 inches; clay loam

C—10 to 60 inches; stratified sandy clay loam to sandy loam to clay loam

Minor Components

Trail and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Bottomland

Jocity and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Drainage class: Moderately well drained

Flooding hazard: Rare

Ecological site: Bottomland

Riverwash

Composition: About 5 percent

Landscape: Valleys

Landform: Channels, streams

Position on landform: Toeslopes

Position on landform: Base slope

Slope: 0 to 1 percent

Shape (down/across): Concave/linear

Drainage class: Somewhat poorly drained

Flooding hazard: Frequent

850—Water**Map Unit Setting**

Major Land Resource Area: 36

Map Unit Composition

Water: 95 percent

Minor components: 5 percent

Component Descriptions**Water**

Aspect: East to west

Minor Components

Typic Torrifluvents and similar soils

Composition: About 5 percent

Landscape: Valleys

Landform: Flood plains

Position on landform: Toeslopes, base slopes

Slope: 0 to 1 percent

Aspect: East to west

Shape (down/across): Concave/linear

Drainage class: Moderately well drained

Flooding hazard: Frequent

DAM—Dam**Map Unit Setting**

Major Land Resource Area: 36

Map Unit Composition

Dam: 100 percent

Component Descriptions**Dam**

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited*, *slightly limited*, *somewhat limited*, and *very limited*. The suitability ratings are expressed as *well suited*, *moderately well suited*, *poorly suited*, and *unsuited* or as *good*, *fair*, and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact

on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The crops or pasture plants best suited to the soils, including some not commonly grown in the survey area, are identified; the system of land capability classification used by the Natural Resources Conservation Service is explained; and the estimated yields of the main crops, hay, and pasture plants are listed for each soil.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil in the section *Detailed Soil Map Units*. Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Cropland in the survey area comprises about 16,000 acres. The major concerns are a moderate hazard of soil blowing, moderate to low available water capacity, slow water intake rate, and seasonal high water tables.

Soil blowing is best controlled by cropping systems that keep the soil covered during the spring season. Low available water capacity can be overcome by method of irrigation, more frequent light irrigations, and crop selection. Slow water intake rates can be overcome by frequent, light applications after a deep early irrigation. High water tables can be overcome by drainage, crop selection, and irrigation water management.

Fertilization

All crops generally respond favorably to applications of nitrogen fertilizer. On sandy soils or on soils that have regularly received heavy applications of nitrogen and phosphorus, potassium may be needed. On cropland areas, soils should be tested at least every other year to determine present nutrient levels. Due to the high pH (8.0 - 8.5) of most of the soils in the area, some trace elements such as iron and zinc may become limiting. Lowering the pH by applying sulfur allows the trace elements to become available, as well as allowing for more efficient uptake of the major nutrients.

All of the soils in the area have low contents of organic matter. Use of barnyard manure, growing green manure crops that are plowed under, or returning large amounts of crop residues to the soil are beneficial practices. Care should be taken to avoid a buildup of salts when large amounts of manure are used.

Irrigation

All of the cropland in Sandoval County is irrigated. For the most part, water is supplied from the Rio Grande and the Jemez River. *Irrigation water management* is controlling the application of irrigation water in such a way that good crop growth is obtained without wasting water or causing soil erosion.

To irrigate properly, the farmer should know the amount of water the soil will hold, the depth to which plant roots penetrate, and the water requirements of the crop. Most crops should be irrigated when 40 to 50 percent of the available soil moisture has been depleted. A soil probe, auger, or even a shovel can be used to determine the moisture content of the root zone. The most visible symptoms of moisture stress are wilting leaves or leaves that take on a bluish cast. More drought-tolerant plants just exhibit a slow rate of growth. A check of the soil profile should be made about 48 hours after irrigation to determine whether the water reached the desired depth and whether it was applied uniformly. This simple check can reveal many problems of which the producer would not otherwise be aware.

The furrow and border methods are the two primary irrigation methods used in the survey area. The *border* method, which consists of surface flooding between low dikes on leveled land, is most widely used for alfalfa, pastures, and small grain. The *furrow* method, consisting of deeper, large furrows between the rows, is used for row crops.

If water is applied too rapidly on clayey soils such as the Sparham series in the survey area, it runs off or ponds at the lower end of the field. (Alfalfa is easily drowned.) If water is applied too slowly on sandy soils such as the Trail series, it penetrates below the root zone and is lost to plant use. A properly designed irrigation system matches the soil characteristics with the amount of water applied. Concrete-lined ditches and pipelines also are used to help conserve water.

Tillage

Most irrigated soils in this survey area have weak structure or poor tilth. Tillage performed when the soil is wet breaks down the soil structure and compacts the soil, resulting in restricted movement of air and water into the root zone. When farm equipment is driven over wet soil, a compacted layer (usually called a *plowpan*), commonly develops several inches below the surface due to the weight of the equipment. This one- to two-inch thick, tightly compressed layer restricts water intake and is often so dense that plant roots have difficulty penetrating it.

Tillage should be performed at varying depths, and only when the soil is dry, to prevent formation of a plowpan. The effect of such a pan can be corrected by chiseling or subsoiling and by growing deep-rooted crops such as alfalfa. Using a grass crop in a long-term rotation also helps to eliminate such restrictive layers. The practice of minimum tillage limits the number of trips over the field to only those that are essential, and this prevents soil damage. Growing “green manure crops,” which are crops that are plowed under, is also very beneficial to these soils. Both of these practices can improve soil tilth, improve the water intake rate, and improve the soil structure. Minimum tillage also lowers operating costs.

Conservation Cropping

A *conservation cropping sequence* is the growing of crops with the needed cultural and management measures to maintain or improve soil tilth. The conservation cropping sequence should also help to control erosion. Cropping systems include rotations that contain grasses and legumes, as well as rotations that provide benefits without these crops. In this survey area, a simple crop sequence usually is used. The sequence is influenced by the needs and choices of the operator.

Use of Crop Residue

To maintain good crop yields, it is essential to incorporate crop residues into the soil. Stubble from small grains and other crop residues are important sources of organic matter. When residues are incorporated into the soil, soil microorganisms decompose them. This process of decomposition improves the soil structure, which, in turn, improves water intake and increases soil aeration. The organisms also release plant nutrients from the material they are breaking down, and the nutrients again become available to the growing crop.

Alfalfa Production

Alfalfa produces well in the Rio Grande and Jemez Valleys. Alfalfa stands with a density of less than 4 to 5 plants per square foot generally are not profitable and are grassy and weedy. Such stands should be rotated out of alfalfa for 1 to 2 years before replanting to alfalfa. Alfalfa roots produce a chemical that kills alfalfa seedlings and takes at least a year to dissipate. Consequently, at least one other crop should be

grown in the field prior to replanting alfalfa to prevent this early thinning due to the toxin in the soil.

Considerations when planting alfalfa are: 1) avoid soils that have a fluctuating high water table; 2) select the best adapted varieties; 3) prepare a good seedbed; 4) incorporate phosphorus fertilizer before planting; 5) control weeds (fall seedings have fewer weed problems); 6) use correct seeding rate (rates vary depending on variety and seeding method); 7) do not use a companion crop unless needed to prevent soil blowing; and 8) control insects at the proper time.

After a good stand is established, maintain the stand by cutting at about $\frac{1}{10}$ bloom. This is a compromise that provides good quality and quantity without damaging the stand.

Yields per Acre

The average irrigated yields per acre that can be expected of the principal crops under a high level of management are shown in Table 5. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in Table 5 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

The *productivity index* is a relative rating of the capacity of a soil to produce a specific plant under a defined management system. The index is determined from yield data on a few benchmark soils and is used to calculate yields, the net returns from crops, land assessment values, and taxes and to perform risk analysis when land management decisions are made.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive land forming that would change slope, depth, or other characteristics of the soils, nor do they include

possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

Land capability classifications for the individual soils in this survey can be found in the section *Detailed Soil Map Units*.

In the capability system, soils are generally grouped at two levels—capability class and subclass.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2*e*. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

Prime Farmland and Farmland of Statewide and Local Importance

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops

when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slopes generally range from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service. There is no farmland in the survey that meets the criteria for prime farmland without supplemental irrigation. Statewide important farmlands are those having an irrigated land capability class of IV or better and are irrigated with a supply of irrigation water that will meet crop needs throughout the growing season.

In some local areas there is a need for certain additional farmlands for the production of food, feed, fiber, and forage, even though these lands are not identified as having national or statewide importance. Where appropriate, these lands are to be identified by the local agency or agencies concerned. In places, additional farmlands of local importance may include tracts of land that have been designated for agriculture by local ordinance.

The map units in the survey area that are considered prime farmland when irrigated listed in Table 6. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described in the section *Detailed Soil Map Units*.

Rangeland

By George Chavez, State Rangeland Management Specialist, Natural Resource Conservation Service

Rangeland is land on which the historic climax plant community is predominantly grasses, grasslike plants, forbs, or shrubs. In areas that have similar climate and topography, the kind and amount of vegetation produced on rangeland is closely related to the kind of soil. Effective management is based on knowledge about the relationship among the soils, vegetation, and water.

The *historic climax plant community* is the association of plants that are best adapted to a unique combination of environmental factors. Even on the same soil, the proportion of these plants varies from place to place and from year to year. The dominant plant or plants are used to characterize the plant community because of their relative stability in areas where abnormal disturbance or deterioration has not occurred. The grasses, forbs and shrubs that characterize the potential natural plant community on each major soil are listed by common name.

Once the plant community has been characterized for each soil, similar plant communities are grouped into ecological sites. An *ecological site* is a distinctive kind of land with specific physical characteristics that differs from other kinds of land in its ability to produce a distinctive kind and amount of vegetation.

Soil properties that have the greatest influence on the productivity of range plants are those that affect the availability of moisture and plant nutrients. Other soil properties such as soil reaction, salt content, and the presence or absence of a high water table during any period of the year, are also important factors in differentiating ecological sites.

Ecological site descriptions can be used to identify the proportions of the total annual production of each plant. Detailed information on the ecological sites in this

survey area is available in the local office of the Natural Resource Conservation Service.

About 55 percent of the survey area is rangeland that supports grasses, forbs, and shrubs suitable for grazing. Yearlong cow and calf operations are the dominant ranch enterprise, but many cattle and sheep ranches and yearling operations are in the area. The livestock produced on these ranches provide the principal agricultural income in the area.

Management of grazing to increase ground cover improves the vigor and reproduction of the more productive grasses and shrubs. Continuous yearlong grazing or grazing the same pasture during the growing season every year may result in the deterioration of the plant community, reducing its value for livestock grazing, watershed, wildlife habitat, and erosion control.

A proper degree of grazing use combined with deferred grazing or prescribed grazing that varies the season of grazing is needed to maintain a healthy, balanced plant community. This practice will also result in high quality forage throughout the year. Periodic rest during different seasons of the year benefits different plants. Rest in summer encourages the production and reproduction of warm-season grasses such as sideoats grama, black grama, galleta, and blue grama. Rest in spring or fall, or both, is beneficial to the cool-season grasses such as western wheatgrass, New Mexico feathergrass, and bottlebrush squirreltail. Rest during fall and winter months benefits shrubs such as fourwing saltbush and winterfat.

Flexibility in livestock and wildlife numbers and in the frequency and intensity of grazing is essential to the success of any grazing program. Effective livestock distribution is accomplished by the proper use of fences, livestock water developments, and salt for livestock.

The major management concern on most rangeland is to control the time and intensity of grazing so that the kinds and amounts of plants that make up the desired plant community may be maintained or reestablished. Forage production often is less than half of the potential because the natural vegetation in many parts of the county has been greatly depleted due to drought, infrequent beneficial wildfires, or continuous and excessive use. Brush, weeds, and cacti have increased or invaded on much of the rangeland, causing further depletion of the grass cover. Soil erosion generally occurs when the soils are not adequately covered.

In many areas where the landscape is broken by mesas, or where pastures are large, the distribution of grazing by livestock generally is poor. Poor distribution of livestock grazing results in areas that are underused and areas that are excessively used. This in turn results in loss of cover, invasion of undesirable plants, and accelerated erosion. Prescribed grazing that improves grazing distribution and proper grazing use is a management concern that may be facilitated by the installation of fencing and additional water. Manipulating or reducing undesirable brush species and minimizing soil erosion are other management concerns.

Table 7 shows, for each soil that supports vegetation suitable for grazing, the ecological site; the total annual production of vegetation in favorable, normal, and unfavorable years; the characteristic vegetation; and the average percentage of each species. An explanation of the column headings in Table 7 follows.

An *ecological site* is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time throughout the soil development process; a characteristic hydrology, particularly infiltration and runoff, that has developed over time; and a characteristic plant community (kind and amount of vegetation). The hydrology of the site is influenced by development of the soil and plant community. The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in

total production. Descriptions of ecological sites are provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service.

Total dry-weight production is the amount of vegetation that can be expected to grow annually in a well managed area that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, normal, and unfavorable years. In a favorable year, the amount and distribution of precipitation and the temperatures make growing conditions substantially better than average. In a normal year, growing conditions are about average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture. Yields are adjusted to a common percent of air-dry moisture content.

Characteristic vegetation—the grasses, forbs, and shrubs that make up most of the potential natural plant community on each soil—is listed by common name. Under *rangeland composition*, the expected percentage of the total annual production is given for each species making up the characteristic vegetation. The amount that can be used as forage depends on the kinds of grazing animals and on the grazing season.

Range management requires a knowledge of the kinds of soil and of the potential natural plant community. It also requires an evaluation of the present range similarity index and rangeland trend. Range similarity index is determined by comparing the present plant community with the potential natural plant community on a particular rangeland ecological site. The more closely the existing community resembles the potential community, the higher the range similarity index. Rangeland trend is defined as the direction of change in an existing plant community relative to the potential natural plant community. Further information about the range similarity index and rangeland trend is available in the "National Range and Pasture Handbook," which is available in local offices of the Natural Resources Conservation Service.

The objective in range management is to control grazing so that the plants growing on a site are about the same in kind and amount as the potential natural plant community for that site. Such management generally results in the optimum production of vegetation, control of undesirable brush species, conservation of water, and control of erosion. Sometimes, however, an area with a range similarity index somewhat below the potential meets grazing needs, provides wildlife habitat, and protects soil and water resources.

Forest Productivity

The tables in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forest management.

Forest Productivity

In Table 8, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. *Commonly grown trees* are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site

index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Recreation

The soils of the survey area are rated in Tables 9A and 9B according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in Tables 9A and 9B can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas.

The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The

soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Wildlife Habitat

The six general areas containing wildlife habitat in the Sandoval County Area are discussed in the following paragraphs.

Plateaus, mesas, and terraces contain soils that have grasslands and pinyon-juniper forests on the gently undulating to steep slopes. Grasses and shrubs grow on soils ranging from very shallow to very deep.

The summits of plateaus and mesas support pinyon-juniper forests. Elevations range from 6,800 to 7,800 feet. A variety of wildlife utilizes these areas, some of which include gray squirrels, cottontail rabbits, prairie rattlesnakes, and pinyon jays.

Fan remnants and stream terraces form near valleys and mountains. These upland sites are home to badger, striped skunk, prairie dogs, prairie rattlesnakes, black-tailed jackrabbit, and hawks. Antelope could be reintroduced in the northern half of the survey if given protection until established. Badgers and other burrowing animals make extensive use of areas of coarse and moderately coarse textured soils.

Mountains occur in the northeastern portion of the survey area north of Bernalillo. The Jemez Mountains contain some of the most important wildlife habitat in the survey area. Woodlands of ponderosa pine, Douglas-fir, pinyon, juniper, and Gambel oak, provide habitat for turkey, mule deer, Elk, black bear, porcupine, cottontail rabbits, gray squirrel, band-tailed pigeons, owls, hawks, prairie rattlesnakes, and songbirds.

Open grassy valleys are home to prairie dogs. The Long tailed weasel also occurs in these areas. Local wetlands are important for many birds, waterfowl, and local mammals. Steep slopes and variable topography also play important roles in wildlife habitat.

River and stream valleys occur along such streams as the Rio Grande, Rio Puerco, and Jemez River. They contain riparian vegetation and water for wildlife use. These areas are used by all local wildlife for some part of their needs.

Songbirds nest in cottonwood and willow trees in large numbers. Cavity nesting birds find many nest sites in holes within large cottonwood trees. Quail use the thick vegetation for cover and seed sources. The abundant prey species attract many predators such as coyote, hawks, prairie rattlesnakes, and bobcat. Mule deer may spend their whole lives in these river bottoms.

The potential for competition between livestock and wildlife is high. The plant communities in these riparian areas must be maintained in good condition to provide wildlife habitat, flood protection, water quality, and soil erosion control.

Wetlands are areas containing hydrophytic vegetation, hydric soils, and wetland hydrology. Marshes are wetlands dominated by grasses and grass-like plants, and they occur in few areas of the survey area. Some are in channels of the Rio Grande, Rio Puerco, and Jemez River valleys and are produced by ground water. Other small marshes are man-induced and formed by irrigation impoundments.

All of these wetlands are used extensively by a large variety of wildlife species. Predators and prey species alike gather at these oases in an otherwise dry landscape.

Wetlands provide natural protection from flooding, enhance water quality, furnish habitat for wildlife, and conserve water. Wetlands need protection from excessive grazing, drainage projects, and poorly planned urban development.

Breaks are the steep, broken lands on the escarpments of mesas and plateaus. Breaks are very eroded and dissected, with many small ridges and gullies. Vegetation grows on the soils occurring in breaks, but not in large amounts. Although annual production of air-dry vegetation is generally low, plant diversity is high. This botanic diversity along with the physical cover provided by the terrain provides an attractive habitat for wildlife. Mule deer hide in breaks and feed on browse plants such as true mountainmahogany. Coyote and red fox find cover in the intricate, rocky landscapes. Trees growing on breaks of higher elevation provide nest sites and hunting perches for raptors such as the red-tailed hawk.

Rock outcrops furnish wildlife habitat when they occur as cliffs below rims of plateaus, mesas, and canyons. Although little or no vegetation grows on rock outcrops, they are still important to many species. Eagles, hawks, turkey vultures, owls, diamondback rattlers, and swallows utilize cliffs and ledges. Migratory bats seasonally roost in cracks and caves. Foxes, bobcats, bear, and cougars have dens in alcoves and caves.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the *Soil Properties* section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the *Glossary*.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 10A and 10B show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building

site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 11A and 11B show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level

floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can

contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Tables 12A and 12B give information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

The soils are rated *good*, *fair*, or *poor* as potential sources of topsoil, reclamation material, and roadfill. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil, reclamation material, or roadfill. The lower the number, the greater the limitation.

The soils are rated as a *probable* or *improbable* source of sand and gravel. A rating of *probable* means that the source material is likely to be in or below the soil. The numerical ratings in these columns indicate the degree of probability. The number 0.00 indicates that the soil is an improbable source. A number between 0.00 and 1.00 indicates the degree to which the soil is a probable source of sand or gravel.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In Table 12A, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the lowest layer of the soil contains sand or gravel, the soil is rated as a probable source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water

capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In the table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Water Management

Table 13 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

Table 13 also gives, for each soil, the restrictive features that affect drainage, irrigation, terraces and diversions, and grassed waterways.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill.

The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, a cemented pan, or other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; subsidence of organic layers; and the potential for frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or a cemented pan, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, and sulfur. Availability of drainage outlets is not considered in the ratings.

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock or a cemented pan affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind erosion or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock or a cemented pan affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 14 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the *Glossary*.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 1998) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 1998).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages

are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and plasticity index (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical Properties

Table 15 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In Table 15, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In Table 15, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In Table 15, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $1/3$ - or $1/10$ -bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential,

available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (K_{sat}) refers to the ability of a soil to transmit water or air. The term “permeability,” as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $1/3$ - or $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In Table 15, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in Table 15 as the K factor (K_w and K_f) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor K_w indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor K_f indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

1. Coarse sands, sands, fine sands, and very fine sands.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.
- 4L. Calcareous loams, silt loams, clay loams, and silty clay loams.
4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.
5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.
6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.
7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.
8. Soils that are not subject to wind erosion because of coarse fragments on the surface or because of surface wetness.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Properties

Table 16 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

Soil Features

Table 17 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Water Features

Table 18 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Table 18 indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 18 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare,

rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Classification of the Soils

Soils are classified so that we can more easily remember significant characteristics. Classification enables us to assemble knowledge about the soils, to see their relationship to one another and to the whole environment, and to develop principles that help us to understand their behavior and their responses to manipulation. Through classification and then the use of soil maps, we can apply our knowledge of soils to specific areas.

The system of soil classification used by the National Cooperative Soil Survey has six categories (USDA, 1998 and 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 19 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Aridisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Argid (*Arg*, meaning presence of argillic horizon, plus *id*, from Aridisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Haplargids (*Hapl*, meaning minimal horizonation, plus *argid*, the suborder of the Aridisols that has a argillic horizon).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Haplargids.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle size, mineral content, soil temperature regime, soil depth, and reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, , mesic Typic Haplargids.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The Grieta series is an example of a fine-loamy, mixed, mesic Typic Haplargid.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (USDA, 1993). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (USDA, 1975,). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The classifications given in Table 19 are those of the classifications at the time of correlation of this survey (1987).

Aga Series

Map units: 22, 27, 426, 427, 428, 827

Depth class: very deep

Drainage class: moderately well drained

Landform: flood plains

Parent material: stream alluvium derived from mixed sources

Elevation: 5,000 to 6,000 feet (1,524 to 1,829 meters)

Slope: 0 to 3 percent

Climatic data:

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Taxonomic class: Coarse-loamy over sandy or sandy-skeletal, mixed, calcareous, mesic Typic Torrifluvents

Typical Pedon

Aga loam, in an area of mapping unit 27, Aga loam, 0 to 1 percent slopes; Sandoval County; Santo Domingo Pueblo Quadrangle, unsectionized state plane coordinates N. 1,659,900 feet and E. 471,850 feet. NAD 83, UTM 13—03 78 346 E—39 35 898 N.

- A—0 to 10 inches; brown (10YR 5/3) loam, dark brown (10YR 4/3) moist; massive; hard, firm, sticky and plastic; many fine and very fine roots; slightly effervescent; moderately alkaline; clear smooth boundary.
- C1—10 to 23 inches; brown (10YR 5/3) loam, dark brown (10YR 4/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common fine and very fine roots; slightly effervescent; moderately alkaline; abrupt smooth boundary.
- 2C2—23 to 43 inches; light yellowish brown (10YR 6/4) sand, yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; few fine and very fine roots; slightly effervescent; moderately alkaline; clear smooth boundary.
- 2C3—43 to 60 inches; very pale brown (10YR 7/4) sand, light yellowish brown (10YR 6/4) moist; single grain; loose, nonsticky and nonplastic; 10 percent gravel; slightly effervescent; moderately alkaline.

Range in Characteristics

A horizon

Texture: loam or silty clay loam

C horizon

Texture: very fine sandy loam

2C horizon*Hue:* 10YR or 7.5YR*Value:* 5 to 7 when dry, and 4 to 6 when moist*Chroma:* 3 or 4*Texture:* sand, loamy sand, gravelly sand, or loamy fine sand*Salinity:* from less than 2 to 16 mmhos/cm.*Note:* The water table ranges from 4 to 6 feet.**Alanos Series***Map units:* 283, 290*Depth class:* very deep*Drainage class:* well drained*Landform:* mountain slopes and hillsides*Parent material:* slope alluvium and colluvium derived from tuff and rhyolite*Elevation:* 7,800 to 9,500 feet (2,377 to 2,896 meters)*Slope:* 5 to 40 percent*Climatic data:**Mean annual precipitation:* 20 to 25 inches (508 to 635 millimeters)*Mean annual air temperature:* 42 to 45 degrees F. (5.6 to 7.2 degrees C.)*Frost-free period:* 60 to 90 days*Taxonomic class:* Clayey-skeletal, mixed Typic Eutroboralfs**Typical Pedon**

Alanos loam, in an area of mapping unit 290, Alanos-Rock outcrop complex, 20 to 40 percent slopes; Los Alamos County; Frijoles Quadrangle. NAD 83, UTM 13—03 78 360 E—39 67 869 N.

A—0 to 4 inches; grayish brown (10YR 5/2) loam, dark grayish brown (10YR 4/2) moist; weak fine granular structure; soft, very friable, slightly sticky and nonplastic; many fine and medium roots; 10 percent gravel; neutral; abrupt smooth boundary.

E—4 to 9 inches; light gray (10YR 7/2) loam, grayish brown (10YR 5/2) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; common fine roots; few fine vesicular pores; 10 percent gravel; neutral; abrupt smooth boundary.

BE—9 to 18 inches; pinkish gray (7.5YR 7/2) and reddish brown (5YR 5/4) very gravelly loam, brown (7.5YR 5/2) and reddish brown (5YR 4/4) moist; weak fine subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; common very fine roots; common fine black (5YR 2/1) iron and manganese concretions; 55 percent gravel; medium acid; clear smooth boundary.

Bt1—18 to 26 inches; reddish brown (5YR 5/4) extremely gravelly clay, reddish brown (5YR 4/4) moist; weak fine subangular blocky structure; hard, firm, sticky and plastic; few fine roots; few fine tubular pores; common fine black (5YR 2/1) iron and manganese concretions; common thin clay films in pores and on gravel; 20 percent cobbles and 55 percent gravel; medium acid; clear smooth boundary.

Bt2—26 to 60 inches; brown (7.5YR 5/4) extremely gravelly clay, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; few fine roots; few fine tubular pores; few thin clay films in pores and on gravel; 20 percent cobbles and 55 percent gravel; medium acid.

Range in Characteristics

Particle-size control section: 35 to 55 percent clay

Other features: Some pedons are slightly alkaline in the lower subhorizons.

A horizon

Hue: 7.5YR or 10YR

Value: 5 or 6 dry, 3 to 5 moist

Chroma: 2 or 3

Texture: loam or cobbly loam

E horizon

Hue: 7.5YR or 10YR

Value: 6 or 7 dry, 4 or 5 moist

Chroma: 2 to 4

Texture: loam, gravelly loam, or cobbly loam

Bt horizon

Hue: 7.5YR or 10YR

Value: 5 to 7 dry, 3 to 6 moist

Chroma: 2 to 6

Texture: extremely gravelly clay loam, extremely gravelly clay, or very gravelly clay

Concretions: fine or medium iron and manganese concretions are in the upper part of the Bt horizon.

Note: C horizons are below 38 inches in some pedons.

Atarque Series

Map units: 324, 396

Depth class: very shallow to shallow

Drainage class: well drained

Landform: breaks; dipslopes of cuestras, hills, mesas, and ridges

Parent material: slope alluvium derived from sandstone and shale

Elevation: 5,700 to 6,600 feet (1,737 to 2,012 meters)

Slope: 5 to 45 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Loamy, mixed, mesic Lithic Haplustalfs

Typical Pedon

Atarque sandy loam, in an area of mapping unit 324, Rock outcrop-Atarque-Menefee complex, 5 to 25 percent slopes; Sandoval County; Ponderosa Quadrangle; about 2 miles northeast of the Jemez Pueblo; 200 feet south and 1,400 feet east of the northwest corner of sec. 11, T 16 N, R 2 E. NAD 27; UTM 13—03 45 805 E—39 44 974 N.

A—0 to 3 inches; light brown (7.5YR 6/4) sandy loam, dark brown (7.5YR 4/4) moist; moderate very thin platy structure; soft, very friable, nonsticky and nonplastic; many very fine roots; neutral; clear smooth boundary.

Bt—3 to 9 inches; reddish brown (5YR 5/4) sandy clay loam, reddish brown (5YR 4/4) moist; moderate fine and medium subangular blocky structure; hard, firm, sticky and plastic; common very fine roots; many very fine tubular pores; many thin clay films on faces of peds and lining pores; neutral; clear smooth boundary.

Btk—9 to 14 inches; strong brown (7.5YR 5/6) sandy clay loam, strong brown (7.5YR 4/6) moist; weak moderate subangular blocky structure; hard, firm, sticky and plastic; few very fine roots; many very fine tubular pores; common thin clay films on faces of peds and lining pores; violently effervescent; common fine irregular shaped soft masses of calcium carbonate; slightly alkaline.

R—14 inches; sandstone bedrock.

Range in Characteristics

A horizon

Hue: 10YR to 5YR

Value: 4 to 7 dry, 3 to 5 moist

Chroma: 2 to 6

Texture: sandy loam or extremely gravelly sandy loam

B horizons

Hue: 10YR to 5YR

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 3 to 6

Texture: sandy clay loam or clay loam

Note: Depth to bedrock: 6 to 20 inches

Bamac Series

Map units: 300, 319, 345, 346

Depth class: very deep

Drainage class: excessively drained

Landform: alluvial fans, fan remnants, fan terraces, hills, and ridges

Parent material: slope and fan alluvium derived from mixed sources

Elevation: 5,400 to 6,900 feet (1,646 to 2,103 meters)

Slope: 1 to 55 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Sandy-skeletal, mixed, mesic Typic Ustorthents

Typical Pedon

Bamac very gravelly loamy sand, in an area of mapping unit 319, Bamac-Rock outcrop complex, 15 to 55 percent slopes; Sandoval County; Santo Domingo Pueblo SW Quadrangle; about 2.5 miles southwest of the Cochiti Pueblo; 2,550 feet east and 100 feet south of the northwest corner of sec. 26, T. 16 N., R. 5 E. NAD 83, UTM 13—03 74 829 E—39 39 774 N.

A—0 to 4 inches; light yellowish brown (10YR 6/4) very gravelly loamy sand, dark yellowish brown (10YR 4/4) moist; weak very fine granular structure; soft, very friable, nonsticky and nonplastic; common fine and medium roots; 55 percent gravel; slightly effervescent; moderately alkaline; clear smooth boundary.

AC—4 to 10 inches; light yellowish brown (10YR 6/4) loamy sand, brown (10YR 4/3) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common medium roots; 10 percent gravel; slightly effervescent; moderately alkaline; clear wavy boundary.

C1—10 to 21 inches; very pale brown (10YR 7/3) very gravelly loamy coarse sand, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; few

fine roots; 45 percent gravel; slightly effervescent; moderately alkaline; gradual wavy boundary

C2—21 to 37 inches; pale brown (10YR 6/3) very gravelly loamy coarse sand, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; 55 percent gravel; slightly effervescent; moderately alkaline; gradual wavy boundary.

C3—37 to 60 inches; pink (7.5YR 7/4) very gravelly loamy coarse sand, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; 50 percent gravel; slightly effervescent; moderately alkaline.

Range in Characteristics

Particle-size control section: 0 to 5 percent clay

A horizon

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

Texture: Gravelly or very gravelly loamy sand or sandy loam or extremely gravelly coarse sandy loam

C horizon

Hue: 7.5YR or 10YR

Value: 3 to 7 dry, 4 to 6 moist

Chroma: 3 to 6 moist or dry

Texture: very gravelly coarse sand, very gravelly loamy sand, or very gravelly loamy coarse sand. Some pedons have thin strata of loamy sand or coarse sand.

Note: Some pedons have Ck horizons.

Betonnie Series

Map unit: 150

Depth class: very deep

Drainage class: well drained

Landform: dipslopes on cuestras, fan terraces, hills, valley sides, summits of plateaus and mesas

Parent material: eolian material and slope alluvium derived from sandstone

Elevation: 6,600 to 7,000 feet (2,012 to 2,134 meters)

Slope: 5 to 8 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Coarse-loamy, mixed, mesic Ustalfic Haplargids

Typical Pedon

Betonnie fine sandy loam, in an area of mapping unit 150, Doakum-Betonnie fine sandy loams, 0 to 8 percent slopes; Sandoval County; Mule Dam Quadrangle; about 15 miles south of Councilor and 500 feet south and 2,400 feet west of the northeast corner of sec. 29, T. 22 N., R. 6 W. NAD 83, UTM 13—02 75 951 E—39 99 372 N.

A—0 to 2 inches; light yellowish brown (10YR 6/4) fine sandy loam, yellowish brown (10YR 5/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine and fine continuous pores; moderately alkaline; clear smooth boundary.

- BA—2 to 4 inches; brown (7.5YR 5/4) fine sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine and fine continuous pores; moderately alkaline; clear smooth boundary.
- Bt—4 to 12 inches; brown (7.5YR 5/4) fine sandy loam, dark brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine and medium roots; common fine continuous pores; clay bridging sand grains and few thin clay films on faces of peds; moderately alkaline; clear smooth boundary.
- BC—12 to 18 inches; brown (7.5YR 5/4) sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; few very fine roots; few very fine continuous pores; moderately alkaline; clear smooth boundary.
- C1—18 to 34 inches; yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, slightly sticky and nonplastic; few very fine roots; strongly effervescent; strongly alkaline; clear gradual boundary.
- C2—34 to 60 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 5/3) moist; massive; slightly hard, firm, slightly sticky and nonplastic; strongly effervescent; moderately alkaline.

Range in Characteristics

A horizon

Hue: 7.5YR or 10YR

Value: 5 to 6 dry, 3 or 5 moist

Chroma: 3 or 4

Texture: loamy fine sand, fine sandy loam, or sandy loam

Bt horizon

Hue: 5YR or 7.5YR

Value: 4 to 6 dry and moist

Chroma: 3 to 6

Texture: fine sandy loam or sandy loam

C horizon

Hue: 7.5YR or 10YR

Value: 4 to 7 dry, 4 to 6 moist

Chroma: 3 to 6

Texture: fine sandy loam, loamy sand, and sandy loam

Note: Some pedons have Bk horizons; some contain thin strata of loamy sand.

Blancot Series

Map units: 101, 270

Depth class: very deep

Drainage class: well drained

Landform: valley sides and ridges

Parent material: fan alluvium derived from sandstone and shale

Elevation: 6,600 to 7,000 feet (2,012 to 2,134 meters)

Slope: 2 to 8 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Fine-loamy, mixed, mesic Ustalfic Haplargids

Typical Pedon

Blancot fine sandy loam, in an area of mapping unit 101, Blancot-Lybrook association, 0 to 8 percent slopes; Sandoval County; Galisteo Quadrangle; about 2,580 feet north and 1,450 feet east of the southwest corner of sec. 15, T. 22 N., R. 7 W. NAD 83, UTM 13—02 69 104 E—40 02 257 N.

- A—0 to 2 inches; pale brown (10YR 6/3) fine sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; few very fine and fine continuous pores; moderately alkaline; clear smooth boundary.
- Bt1—2 to 5 inches; grayish brown (10YR 5/2) clay loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, friable, sticky and plastic; common fine and medium roots; common very fine and fine continuous pores; few thin clay films on faces of peds; moderately alkaline; clear smooth boundary.
- Bt2—5 to 14 inches; yellowish brown (10YR 5/4) clay loam, dark yellowish brown (10YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, firm, slightly sticky and slightly plastic; common very fine and fine continuous pores; few thin clay films on faces of peds; moderately alkaline; clear smooth boundary.
- Btk—14 to 23 inches; yellowish brown (10YR 5/4) clay loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; hard, firm, slightly sticky and slightly plastic; few very fine and fine roots; few very fine and fine continuous pores; few thin clay films on faces of peds; strongly effervescent; moderately alkaline; clear smooth boundary.
- C1—23 to 40 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 5/3) moist; massive; hard, friable, nonsticky and nonplastic; few very fine and fine roots; slightly effervescent; moderately alkaline; clear gradual boundary.
- C2—40 to 49 inches; light brownish gray (10YR 6/2) silty clay loam, grayish brown (10YR 5/2) moist; massive; slightly hard, friable, sticky and plastic; strongly effervescent; moderately alkaline; clear gradual boundary.
- C2—49 to 60 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 5/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; strongly effervescent; strongly alkaline.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay

A horizon

Hue: 10YR or 2.5Y

Value: 5 to 7 dry, 3 to 5 moist

Chroma: 2 to 4

Texture: fine sandy loam, loam, or silt loam

Bt horizon

Hue: 10YR or 2.5Y

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 2 to 6 dry and moist

Texture: loam, sandy clay loam, or clay loam

Btk, Bk, and C horizons (when present)

Hue: 10YR or 2.5Y

Value: 5 or 6 dry, 3 to 5 moist

Chroma: 2 to 6 dry and moist

Texture: sandy loam, loam, sandy clay loam, clay loam, fine sandy loam, or silty clay loam

Note: Some pedons have accumulations of secondary calcium carbonate.

Bond Series

Map unit: 227

Depth class: very shallow to shallow

Drainage class: well drained

Landform: cuestras, hills, mesas, and ridges

Parent material: eolian material and slope alluvium derived from sandstone

Elevation: 5,700 to 6,000 feet (1,737 to 1,829 meters)

Slope: 1 to 8 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Loamy, mixed, mesic Lithic Ustollic Haplargids

Typical Pedon

Bond loamy fine sand, in an area of mapping unit 227, Hagerman-Bond association, 1 to 8 percent slopes; Sandoval County; Ojito Spring Quadrangle; about 3/4 mile north and 1/2 mile east of the Ojito Spring (along the Ojito Arroyo) on the Zia Pueblo portion of the Ojo Del Espiritu Santo Grant. NAD 83, UTM 13—03 23 191 E—39 39 809 N.

A—0 to 4 inches; light yellowish brown (10YR 6/4) loamy fine sand, yellowish brown (10YR 5/4) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; many fine and few medium roots; slightly alkaline; clear smooth boundary.

Bt—4 to 12 inches; brown (7.5YR 5/4) sandy clay loam, dark brown (7.5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine roots; few fine tubular pores; common thin clay films on faces of peds; neutral; abrupt smooth boundary.

R—12 inches; sandstone bedrock.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay

Depth to lithic contact: 6 to 20 inches

A horizon

Hue: 5YR, 7.5YR or 10YR

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 2 to 4

Texture: loamy fine sand, sandy loam, or fine sandy loam

Bt horizon

Hue: 5YR or 7.5YR

Value: 4 or 6 dry, 3 to 6 moist

Chroma: 3 to 6

Texture: sandy clay loam, loam, sandy loam, or clay loam

C horizon (when present)

Hue: 5YR or 7.5YR

Value: 5 to 8 dry, 5 or 6 moist

Chroma: 4 to 6 dry and moist

Texture: sandy clay loam, loam, sandy loam, or clay loam

Note: Some pedons have Btk horizons.

Cajete Series

Map units: 308, 503

Depth class: very deep

Drainage class: well drained

Landform: mountain slopes, hills, and stream terraces

Parent material: residuum derived from pumice

Elevation: 7,000 to 8,500 feet (2,134 to 2,591 meters)

Slope: 0 to 30 percent

Climatic data:

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Taxonomic class: Ashy-skeletal, frigid Mollic Vitrandepts

Typical Pedon

Cajete gravelly loam, in an area of mapping unit 308, Cajete gravelly loam, 0 to 8 percent slopes; Sandoval County; Redondo Peak Quadrangle; about 100 yards south of dirt tank and 10 yards north of ridge crest, Baca location No. 1. NAD 83, UTM 13—03 58 759 E—39 66 454 N.

A1—0 to 7 inches; very dark grayish brown (10YR 3/2) gravelly loam, very dark brown (10YR 2/2) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many fine and medium roots; 20 percent pumice gravel; neutral; clear smooth boundary.

A2—7 to 15 inches; dark grayish brown (10YR 4/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many fine and medium roots; 20 percent pumice gravel; neutral; gradual wavy boundary.

Bw—15 to 33 inches; pale brown (10YR 6/3) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; weak fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many fine and medium roots; 40 percent pumice gravel; neutral; abrupt wavy boundary.

C1—33 to 45 inches; matrix: light gray (10YR 7/2) very gravelly sand, pale brown (10YR 6/3) moist; single grain; loose, nonsticky and nonplastic; many fine and medium roots concentrated near lamella; wavy lamella 0.5 to 1 inch thick, strong brown (7.5YR 5/6) extremely gravelly sandy loam, yellowish brown (10YR 5/6) moist, 75 percent pumice gravel; matrix has 50 percent pumice gravel; neutral; abrupt wavy boundary.

C2—45 to 49 inches; very pale brown (10YR 7/3) extremely gravelly sand, light yellowish brown (10YR 6/4) moist; single grain; loose, nonsticky and nonplastic; 60 percent pumice gravel; slightly alkaline; abrupt wavy boundary.

C3—49 to 60 inches; matrix: light gray (10YR 7/2) very gravelly sand, pale brown (10YR 6/3) and light yellowish brown (10YR 6/4) moist; single grain; loose, nonsticky and nonplastic; lamella 0.25-0.5 inch thick with colors similar to those described in the C1; 50 percent fine pumice gravel; slightly alkaline.

Range in Characteristics

Depth to the base of the cambic horizon: 20 to 35 inches

A horizons

Value: 3 to 5 dry, 2 or 3 moist

Chroma: 1 to 3

Texture: extremely gravelly coarse sandy loam or gravelly loam

Content of rock fragments: 15 to 80 percent pumice

Bw horizon*Hue:* 7.5YR or 10YR*Value:* 6 to 8 dry, 5 or 6 moist*Chroma:* 2 to 4*Content of rock fragments:* 35 to 60 percent pumice gravel**C horizons***Hue:* 7.5YR or 10YR*Value:* 6 to 8 dry, 5 to 6 moist*Chroma:* 2 to 4*Texture:* very gravelly sand or very gravelly sandy loam*Content of rock fragments:* 35 to 60 percent pumice**Calaveras Series***Map units:* 82, 83, 311*Depth class:* very deep*Drainage class:* well drained*Landform:* mountain slopes*Parent material:* colluvium derived from tuff*Elevation:* 8,500 to 9,200 feet (2,591 to 2,804 meters)*Slope:* 5 to 60 percent*Climatic data:**Mean annual precipitation:* 20 to 25 inches (508 to 635 millimeters)*Mean annual air temperature:* 42 to 45 degrees F. (5.6 to 7.2 degrees C.)*Frost-free period:* 60 to 90 days*Taxonomic class:* Loamy-skeletal, mixed, frigid Dystric Eutrochrepts**Typical Pedon**

Calaveras silt loam, in an area of mapping unit 311, Cosey-Tranquilar-Calaveras association, 5 to 20 percent slopes; Sandoval County, Valle San Antonio Quadrangle; about .1 mile south of movie set on the main ranch road, Baca Location No. 1; NAD 83, UTM 13—03 63 714 E—39 71 088 N.

A—0 to 4 inches; grayish brown (10YR 5/2) silt loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; 5 percent gravel; slightly acid; clear smooth boundary.

E—4 to 11 inches; pale brown (10YR 6/3) silt loam, dark yellowish brown (10YR 3/4) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many fine and medium roots; 10 percent gravel; slightly acid; clear smooth boundary.

Bw—11 to 17 inches; pale brown (10YR 6/3) gravelly silt loam, dark brown (10YR 4/3) moist; weak coarse subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common coarse roots; 5 percent stones and 20 percent gravel; slightly acid; clear wavy boundary.

2Bt1—17 to 30 inches; pale brown (10YR 6/3) very cobbly loam, dark brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common coarse roots; few thin patchy clay films on rock fragments; 5 percent stones, 20 percent cobbles, and 20 percent gravel; medium acid; gradual wavy boundary.

2Bt2—30 to 39 inches; light brown (7.5YR 6/4) extremely cobbly coarse sandy loam, brown (7.5YR 5/4) moist; weak fine and medium subangular blocky structure; hard, firm, slightly sticky and slightly plastic; few coarse roots; many clay films bridging sand grains and many thick clay films occur on tops of rock fragments; 5 percent stones, 30 percent cobbles, and 30 percent gravel; neutral; gradual wavy boundary.

3Bt3—39 to 60 inches; light brown (7.5YR 6/4) extremely cobbly loamy sand, brown (7.5YR 5/4) moist; weak fine subangular blocky structure; hard, firm, slightly sticky and slightly plastic; few coarse roots; clay bridging sand grains; 10 percent stones, 30 percent cobbles, and 20 percent gravel; neutral.

Range in Characteristics

Particle-size control section: 5 to 20 percent clay

Content of rock fragments: 10 to 85 percent total; 0 to 50 percent stones or cobbles, and 15 to 50 percent gravel

A horizon

Hue: 10YR or 7.5YR

Value: 3 to 7 dry, 2 to 5 moist

Chroma: 1 to 4

Texture: silt loam, loam, or very gravelly sandy loam

E horizon

Hue: 7.5YR or 10YR

Value: 6 or 7 dry, 3 or 4 moist

Chroma: 2 to 4

Texture: silt loam and sandy clay loam

2B horizons

Hue: 7.5YR or 10YR

Value: 5 to 7 dry, 4 or 5 moist

Chroma: 2 to 4

Texture: extremely cobbly coarse sandy loam, very cobbly sandy loam, or very cobbly loam. In some pedons, extremely cobbly loamy coarse sand or extremely cobbly loamy sand occurs below 35 inches.

Note: Some pedons may have an AE horizon of sandy loam texture.

Camino Series

Map unit: 15

Depth class: deep

Drainage class: well drained

Landform: valley sides and plateaus

Parent material: fan alluvium and residuum derived from shale

Elevation: 5,900 to 6,200 feet (1,798 to 1,890 meters)

Slope: 1 to 6 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Fine, mixed, mesic Ustollic Camborthids

Typical Pedon

Camino silty clay loam, in an area of mapping unit 15, Camino-Sandoval complex, 1 to 8 percent slopes; Sandoval County; Sky Village NW Quadrangle; on Alamo Ranch 800 feet south and 400 feet east of the northwest corner of sec. 14, T. 14 N., R. 1 W. NAD 83, UTM 13—03 25 862 E—39 24 200 N.

- A—0 to 2 inches; pale olive (5Y 6/3) silty clay loam, olive (5Y 5/3) moist; weak fine subangular blocky structure; soft, friable, sticky and plastic; few very fine roots; strongly effervescent; slightly alkaline; abrupt smooth boundary.
- Bw1—2 to 5 inches; pale olive (5Y 6/3) clay, olive (5Y 5/3) moist; weak medium subangular blocky structure; very hard, very firm, very sticky and very plastic; few fine and very fine roots; strongly effervescent; moderately alkaline; clear smooth boundary.
- Bw2—5 to 20 inches; pale olive (5Y 6/3) clay, olive (5Y 5/3) moist; weak medium subangular blocky structure; very hard, very firm, very sticky and very plastic; few fine and very fine roots; strongly effervescent; few fine irregular soft masses of calcium carbonate; moderately alkaline; gradual smooth boundary.
- Bk—20 to 51 inches; pale olive (5Y 6/3) clay, olive (5Y 5/3) moist; massive; very hard, very firm, very sticky and very plastic; 5 percent shale fragments; strongly effervescent; common fine irregular soft masses of calcium carbonate; moderately alkaline; clear wavy boundary.
- Cr—51 inches; soft olive shale.

Range in Characteristics

Particle-size control section: 40 to 50 percent clay

Salinity: EC of 2 to 4

Depth to bedrock: 40 to more than 60 inches

A horizon

Hue: 2.5Y or 5Y

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

Bw and Bk horizons

Hue: 2.5Y or 5Y

Value: 5 to 7 dry, 4 to 6 moist

Chroma: 3 or 4

Carjo Series

Map unit: 281

Depth class: moderately deep

Drainage class: well drained

Landform: hills, mesas, and summits of ridges

Parent material: residuum derived from tuff

Elevation: 7,000 to 8,000 feet (2,134 to 2,438 meters)

Slope: 1 to 9 percent

Climatic data:

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Taxonomic class: Fine, mixed Mollic Eutroboralfs

Typical Pedon

Carjo loam, in an area of mapping unit 281, Carjo loam, 1 to 9 percent slopes; Los Alamos County; Frijoles Quadrangle; at the east end of 2-mile mesa; 1,100 feet south and 1,500 feet west of the northeast corner of sec. 20, T. 19 N., R. 6 E. NAD 83, UTM 13—03 80 426 E—39 70 016 N.

- A—0 to 4 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; many very fine interstitial pores; neutral; clear smooth boundary.
- BA—4 to 12 inches; brown (7.5YR 4/4) clay loam, dark brown (7.5YR 3/4) moist; weak fine subangular blocky structure; slightly hard, very friable, sticky and plastic; many fine roots; many very fine interstitial pores; neutral; clear smooth boundary.
- Bt—12 to 20 inches; reddish brown (5YR 4/4) clay, dark reddish brown (5YR 3/4) moist; moderate fine angular blocky structure; hard, firm, sticky and plastic; many fine and medium roots; common fine tubular pores; thin discontinuous clay films on faces of peds; neutral; clear smooth boundary.
- C—20 to 25 inches; light brown (7.5YR 6/4) very fine sandy loam, brown (7.5YR 4/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; few fine roots; common fine tubular pores; slightly alkaline; abrupt smooth boundary.
- 2R—25 inches; tuff bedrock.

Range in Characteristics

Depth to bedrock: 20 to 40 inches

A horizon

Hue: 7.5YR or 10YR

Value: 3 to 5 dry, 2 or 3 moist

Chroma: 1 to 5

Texture: fine sandy loam or loam

Content of rock fragments: 0 to 35 percent cobbles or flagstones, 0 to 15 percent gravel or channers

B horizon

Hue: 10YR, 7.5YR or 5YR

Value: 3 to 6 dry, 2 to 5 moist

Chroma: 2 to 6

Texture: clay or clay loam

Content of rock fragments: 0 to 15 percent

C or BC horizon

Hue: 7.5YR or 5YR

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

Texture: sandy loam, very fine sandy loam, or clay loam

Note: B/E or E horizons occur in some pedons.

Cascajo Series

Map units: 47, 54

Depth class: very deep

Drainage class: excessively drained

Landform: hills, knolls, ridges, and structural benches

Parent material: fan alluvium derived from sandstone

Elevation: 5,300 to 6,500 feet (1,615 to 1,981 meters)

Slope: 5 to 30 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Sandy-skeletal, mixed, mesic Ustollic Calciorthids

Typical Pedon

Cascajo very gravelly sandy loam, in an area of mapping unit 47, Cascajo very gravelly sandy loam, 12 to 30 percent slopes; Sandoval County; San Felipe Pueblo Quadrangle; about 7 miles northeast of Ball Ranch Headquarters; 600 feet west and 700 feet south of the northeast corner of sec. 27, T. 14 N., R. 6 E. NAD 27; UTM 13—03 83 258 E—39 20 070 N.

A—0 to 2 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine and medium roots; 19 percent cobbles and 40 percent gravel; violently effervescent; slightly alkaline; abrupt smooth boundary.

Bw—2 to 5 inches; very pale brown (10YR 7/3) very gravelly sandy loam, pale brown (10YR 6/3) moist; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many fine and medium roots; 18 percent cobbles and 40 percent gravel; violently effervescent; moderately alkaline; clear smooth boundary.

Bk1—5 to 11 inches; very pale brown (10YR 8/3) very gravelly sandy loam, very pale brown (10YR 7/3) moist; weak fine subangular structure; slightly hard, friable, slightly sticky and slightly plastic; common fine and medium roots; 5 percent cobbles and 40 percent gravel; violently effervescent; many fine filaments and threads of calcium carbonate; moderately alkaline; clear smooth boundary.

Bk2—11 to 23 inches; pale brown (10YR 6/3) very gravelly loamy sand, brown (10YR 5/3) moist; weak medium and coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; few medium roots; 5 percent cobbles and 50 percent gravel; violently effervescent; common fine filaments and threads of calcium carbonate; moderately alkaline; clear smooth boundary.

C1—23 to 30 inches; light brown (7.5YR 6/4) very gravelly loamy sand, yellowish brown (10YR 5/3) moist; massive; soft, friable, nonsticky and nonplastic; few medium roots; 10 percent cobbles and 45 percent gravel; strongly effervescent; moderately alkaline; clear smooth boundary.

C2—30 to 60 inches; light brown (7.5YR 6/4) extremely cobbly loamy sand, brown (7.5YR 5/4) moist; massive; soft, very friable; nonsticky and nonplastic; few medium roots; 50 percent cobbles and 30 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

A horizon

Hue: 10YR

Value: 6 dry and 4 moist

Chroma: 3 dry and moist

B and C horizons

Hue: 10YR or 7.5YR

Value: 4 to 8 dry and 5 to 7 moist

Texture: very gravelly sand, extremely cobbly loamy sand, or very gravelly loamy sand. Some pedons may have horizons of very gravelly sandy loam above the C horizons.

Charo Series

Map unit: 405

Depth class: moderately deep

Drainage class: well drained

Landform: hills, mesas, and ridges

Parent material: eolian material and residuum derived from basalt

Elevation: 8,100 to 8,300 feet (2,469 to 2,530 meters)

Slope: 1 to 5 percent

Climatic data:

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Taxonomic class: Fine, mixed Typic Argiborolls

Typical Pedon

Charo very cobbly loam, in an area of mapping unit 405, Charo complex, 1 to 5 percent slopes; Sandoval County; Laguna Seca Quadrangle; about one mile west of Laguna Seca; unsectionized; NAD 27; UTM 13—02 91 297 E—39 20 794 N.

A—0 to 5 inches; very dark grayish brown (10YR 3/2) cobbly loam, very dark brown (10YR 2/2) moist; moderate medium granular structure; slightly hard, friable, slightly sticky and slightly plastic; many fine and many medium roots; 2 percent stones, 15 percent cobbles and 15 percent gravel; neutral; clear smooth boundary.

Bt1—5 to 12 inches; reddish brown (5YR 4/3) clay, dark reddish brown (5YR 3/3) moist; weak medium angular blocky structure; hard, firm, sticky and plastic; many fine roots and common very fine roots; few fine tubular pores; few thin dark reddish gray (5YR 4/2) clay films on faces of peds and in pores; neutral; clear smooth boundary.

Bt2—12 to 15 inches; reddish brown (5YR 4/3) clay, dark reddish brown (5YR 3/3) moist; moderate medium and coarse angular blocky structure; hard, firm, sticky and plastic; many very fine roots; common, moderately thick, dark reddish gray (10YR 4/2), clay films on faces of peds; neutral; gradual wavy boundary.

Bt3—15 to 25 inches; reddish brown (5YR 4/4) clay, dark reddish brown (5YR 3/4) moist; weak coarse angular blocky structure; very hard, very firm, very sticky and very plastic; few very fine roots; few fine and few medium pores; few thin clay films on faces of peds, in pores, and on coarse fragments; 5 percent cobbles and 5 percent gravel; slightly alkaline; gradual wavy boundary.

C—25 to 28 inches; reddish brown (5YR 4/4) and dark reddish gray (5YR 4/2) clay, dark reddish brown (5YR 3/4) and (5YR 3/2) moist; massive; very hard, very firm, very sticky and very plastic; few very fine and fine pores; 10 percent cobbles and 10 percent gravel; slightly alkaline; abrupt wavy boundary.

R—28 inches; hard basalt.

Range in Characteristics

Particle-size control section: 35 to 60 percent clay

Depth to bedrock: 20 to 40 inches

A horizon

Hue: 7.5YR or 10YR

Chroma: 2 or 3

Texture: loam, cobbly loam or very cobbly loam

Bt horizon

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 3 to 6

Texture: clay loam or clay

Note: C horizons occur in some pedons.

Clovis Series

Map units: 1, 2, 143 ,211

Depth class: very deep

Drainage class: well drained

Landform: fan terraces, mesas, and plains

Parent material: eolian material and slope alluvium derived from sandstone and shale

Elevation: 5,500 to 7,300 feet (1,676 to 2,225 meters)

Slope: 1 to 8 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Fine-loamy, mixed, mesic Ustollic Haplargids

Typical Pedon

Clovis fine sandy loam, in an area of mapping unit 143, Clovis fine sandy loam, 1 to 4 percent slopes; Sandoval County; Arroyo de las Calabacillas Quadrangle; about 24 miles northwest of Rio Rancho at the far northwest corner of the west mesa; 1,600 feet west and 2,000 feet north of the southeast corner of sec. 17, T. 13 N., R. 1 E. NAD 83, UTM 13—03 31 377 E—39 13 673 N.

A—0 to 3 inches; pale brown (10YR 6/3) fine sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; common fine and few medium roots; slightly alkaline; abrupt wavy boundary.

Bt1—3 to 7 inches; brown (7.5YR 5/4) sandy clay loam, dark brown (7.5YR 4/4) moist; medium and coarse subangular blocky structure; hard, friable, sticky and plastic; common fine and few medium roots; many thin clay films on sand grains; moderately alkaline; clear smooth boundary.

Bt2—7 to 12 inches; brown (7.5YR 5/4) sandy clay loam, dark brown (7.5YR 4/4) moist; weak coarse subangular blocky structure; hard, friable, sticky and plastic; few fine roots; many thin clay films on sand grains; moderate alkaline; gradual wavy boundary.

Bt3—12 to 22 inches; brown (7.5YR 5/4) sandy clay loam, dark brown (7.5YR 4/4) moist; weak medium subangular blocky structure; hard, friable, sticky and plastic; few fine roots; many thin clay films on sand grains; moderately alkaline; clear wavy boundary.

Bk1—22 to 34 inches; light brown (7.5YR 6/4) sandy clay loam, brown (7.5YR 5/4) moist; weak coarse prismatic structure; very hard, firm, sticky and plastic; violently effervescent; common fine filaments and threads of calcium carbonate; moderately alkaline; diffuse wavy boundary.

Bk2—34 to 60 inches; reddish yellow (7.5YR 6/6) sandy clay loam, brown (7.5YR 5/4) moist; weak coarse prismatic structure; very hard, firm, sticky and plastic; violently effervescent; common medium irregular soft masses of calcium carbonate; moderately alkaline.

Range in Characteristics

Particle-size control section: 18 to 35 percent

Content of rock fragments: 0 to 15 percent stones, cobbles, or gravel

A horizon

Hue: 5YR, 7.5YR, or 10YR

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 2 to 6 dry, 2 to 4 moist

Texture: fine sandy loam or loam

BA, Bt, Btk horizons

Hue: 2.5YR, 5YR, or 7.5YR

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 4 or 6

Texture: sandy clay loam or clay loam

Bk horizon

Hue: 7.5YR or 10YR

Value: 6 to 8 dry, 5 to 7 moist

Chroma: 2 to 6

Texture: fine sandy loam or sandy clay loam

Cochiti Series

Map units: 104, 353

Depth class: very deep

Drainage class: well drained

Landform: fan terrace, hills, mesas, plains, and stream terraces

Parent material: gravelly alluvium

Elevation: 5,300 to 7,000 feet (1,615 to 2,134 meters)

Slope: 3 to 40 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Clayey-skeletal, mixed, mesic Aridic Haplustalfs

Typical Pedon

Cochiti gravelly loam, in an area of mapping unit 104, Cochiti-Montecito association, 1 to 30 percent slopes; Sandoval County; Canada Quadrangle; about 10 miles west of Cochiti Pueblo; 1,500 feet east and 300 feet north of the center of sec. 11, T. 16 N., R. 4 E. NAD 83, UTM 13—03 65 807 E—39 44 031 N.

A—0 to 7 inches; dark yellowish brown (10YR 4/4) gravelly loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, firm, sticky and plastic; many fine and medium roots; 5 percent cobbles and 15 percent gravel; neutral; clear smooth boundary.

Bt1—7 to 12 inches; reddish brown (5YR 4/3) gravelly clay loam, reddish brown (5YR 4/3) moist; strong medium subangular blocky structure; very hard, firm, very sticky and very plastic; common fine and coarse roots; thick continuous clay films on faces of peds; 5 percent cobbles and 25 percent gravel; slightly acid; clear smooth boundary.

Bt2—12 to 20 inches; reddish brown (5YR 4/4) very gravelly clay, reddish brown (5YR 4/4) moist; strong medium and coarse subangular blocky structure; very hard, firm, very sticky and very plastic; few fine and coarse roots; thick continuous clay

films on faces of peds; 5 percent cobbles and 40 percent gravel; neutral; clear smooth boundary.

Bt3—20 to 29 inches; light reddish brown (5YR 6/4) very gravelly clay loam, reddish brown (5YR 5/4) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; few fine and coarse roots; thin and continuous clay films on faces of peds; 5 percent cobbles and 40 percent gravel; neutral; clear smooth boundary.

C—29 to 60 inches; light reddish brown (5YR 6/4) very gravelly sandy loam, reddish brown (5YR 5/4) moist; massive; loose, nonsticky and nonplastic; few fine and coarse roots; 5 percent cobbles and 50 percent gravel; neutral.

Range in Characteristics

Particle-size control section: 35 to 45 percent clay

Content of rock fragments: 35 to 50 percent by volume with 5 to 10 percent cobbles and 30 to 40 percent gravel

A horizon

Hue: 7.5YR or 10YR

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 3 or 4

Texture: gravelly loam or extremely gravelly loam

B horizon

Hue: 7.5YR or 5YR

Value: 4 to 6 dry, 4 or 5 moist

Chroma: 3 or 4

Texture: very gravelly clay or very gravelly clay loam

2C horizon

Hue: 7.5YR or 5YR

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 to 6

Texture: very gravelly loamy sand or very gravelly sandy loam

Cosey Series

Map units: 304, 311

Depth class: very deep

Drainage class: well drained

Landform: mountain slopes

Parent material: slope alluvium and colluvium derived from rhyolite

Elevation: 8,600 to 9,200 feet (2,621 to 2,804 meters)

Slope: 2 to 20 percent

Climatic data:

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Taxonomic class: Loamy-skeletal, mixed Typic Paleborolls

Typical Pedon

Cosey silt loam, in an area of mapping unit 304, Cosey-Jarmillo association, 2 to 20 percent slopes; Sandoval County; Valle Toledo Quadrangle; about 13 miles northeast of La Cueva, 300 feet south of the pipeline, and 2 miles southeast of road junction at west end of Toledo Valley, Baca Location No. 1; unsectionized; NAD 83, UTM 13—03 67 849 E—39 78 865 N.

- A1—0 to 9 inches; dark grayish brown (10YR 4/2) silt loam, black (10YR 2/1) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many fine and very fine roots; slightly acid; clear smooth boundary.
- A2—9 to 15 inches; grayish brown (10YR 5/2) silt loam, very dark brown (10YR 2/2) moist; moderate coarse granular structure; soft, very friable, slightly sticky and slightly plastic; common fine and very fine roots; slightly acid; clear smooth boundary.
- BA—15 to 28 inches; very pale brown (10YR 7/3) gravelly loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine and very fine roots; 10 percent cobbles and 20 percent gravel; slightly acid; gradual smooth boundary.
- Bt1—28 to 34 inches; very pale brown (10YR 7/3) very gravelly sandy clay loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine and very fine roots; common moderately thick clay films on faces of peds; 10 percent cobbles and 50 percent gravel; slightly acid; gradual smooth boundary.
- Bt2—34 to 60 inches; light brown (7.5YR 6/4) crushed, extremely cobbly clay loam, dark brown (7.5YR 4/4) moist; strata of very pale brown (10YR 7/3) silty clay loam and brownish yellow (10YR 6/6) sandy loam; weak medium subangular blocky structure; hard, firm, sticky and plastic; continuous thick clay films on faces of peds; 40 percent cobbles and 30 percent gravel; slightly acid.

Range in Characteristics

Particle-size control section: 27 to 35 percent clay

Depth to argillic horizon: 22 to 35 inches

A horizon

Value: 3, 4 or 5 dry, 2 or 3 moist

Chroma: 1 to 3

Texture: loam, silt loam

BA horizon

Value: 6 to 8 dry, 4 to 6 moist

Chroma: 2 or 3

Texture: gravelly sandy loam, gravelly fine sandy loam, and gravelly loam

Bt horizon

Hue: 7.5YR or 10YR

Value: 4 to 7 dry, 3 to 5 moist

Chroma: 3 or 4

Texture: very gravelly sandy clay loam or extremely cobbly clay loam

Councilor Series

Map units: 180, 270

Depth class: very deep

Drainage class: well drained

Landform: stream terraces, fan terraces, valley floors, and valley sides

Parent material: eolian material and stream alluvium derived from sandstone and shale

Elevation: 6,600 to 7,000 feet (2,012 to 2,134 meters)

Slope: 1 to 30 percent

*Climatic data:**Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 48 to 52 degrees F. (10.0 to 11.1 degrees C.)*Frost-free period:* 110 to 130 days*Taxonomic class:* Coarse-loamy, mixed, calcareous, mesic Ustic Torriorthents**Typical Pedon**

Councilor fine sandy loam, in an area of mapping unit 180, Councilor-Eslendo-Mespin complex, 5 to 30 percent slopes; Sandoval County; Galisteo SE Quadrangle; about 15 miles southwest of Councilor; 1,500 feet north and 1,500 feet east of the southwest corner of sec. 6, T. 21 N., R. 6 W. NAD 83, UTM 13—02 73 616 E—39 95 265 N.

- A—0 to 2 inches; pale brown (10YR 6/3) fine sandy loam, brown (10YR 5/3) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; slightly effervescent; moderately alkaline; clear smooth boundary.
- C1—2 to 7 inches; pale brown (10YR 6/3) fine sandy loam, dark brown (10YR 5/3) moist; massive; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; strongly effervescent; moderately alkaline; clear smooth boundary.
- C2—7 to 37 inches; pale brown (10YR 6/3) fine sandy loam, yellowish brown (10YR 5/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; slightly effervescent; moderately alkaline; gradual smooth boundary.
- C3—37 to 40 inches; pale brown (10YR 6/3) clay loam, brown (10YR 5/3) moist; massive; hard, firm, sticky and plastic; few fine and very fine roots; strongly effervescent; very few fine irregular soft masses of calcium carbonate; moderately alkaline; clear smooth boundary.
- C4—40 to 60 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 5/3) moist; massive; soft, friable, slightly sticky and slightly plastic; strongly effervescent; moderately alkaline.

Range in Characteristics*Particle-size control section:* 8 to 18 percent clay**A horizon***Hue:* 7.5YR or 10YR*Value:* 5 or 6 dry, 3 to 5 moist*Chroma:* 2 to 4**C horizon***Hue:* 7.5YR or 10YR*Value:* 5 to 7 dry, 4 or 5 moist*Chroma:* 2 to 4 dry, 2 to 6 moist*Texture:* fine sandy loam, sandy loam, or clay loam

Note: The C horizon contains thin strata of loamy sand, loamy fine sand, and sandy clay loam in some pedons.

Cucho Series*Map units:* 397, 398, 399*Depth class:* moderately deep*Drainage class:* well drained*Landform:* cuestras and fan terraces

Parent material: colluvium derived from shale

Elevation: 5,900 to 7,200 feet (1,798 to 2,195 meters)

Slope: 15 to 70 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Fine-silty, mixed, calcareous, mesic Typic Ustorthents

Typical Pedon

Cucho very gravelly clay loam in an area of mapping unit 397, Rock outcrop-Cucho-Vessilla complex, 25 to 70 percent slopes; Sandoval County; Holy Ghost Spring Quadrangle; 1.5 miles east of state highway 44 and 0.5 miles south of the Jemez-Zia Indian Reservations boundary. unsectionized; NAD 83, UTM 13—03 27 007 E—39 52 487 N.

A—0 to 2 inches; pale yellow (2.5Y 7/4) and very pale brown (10YR 7/4) very gravelly clay loam, light olive brown (2.5Y 5/4) and yellowish brown (10YR 5/4) moist; moderate fine granular structure; slightly hard, friable, sticky and slightly plastic; common fine and few medium roots; 45 percent gravel; slightly effervescent; slightly alkaline; abrupt smooth boundary.

C1—2 to 9 inches; light gray (5Y 7/2) clay loam, light olive gray (5Y 6/2) moist; massive; hard, firm, sticky and plastic; few medium roots; slightly effervescent; neutral; gradual wavy boundary.

C2—9 to 37 inches; pale olive (5Y 6/3) clay loam, olive (5Y 5/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few medium roots in upper part; 50 percent soft weathered shale fragments at upper boundary grading to 90 percent at lower boundary; matrix slightly effervescent; few medium strongly effervescent irregular soft masses of calcium carbonate; slightly alkaline; gradual wavy boundary.

Cr—37 to 60 inches; fractured shale.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay, less than 15 percent fine sand or coarser

Calcium carbonate equivalent: 1 to 10 percent

Depth to a Cr horizon: 20 to 40 inches

A horizon

Hue: 2.5Y or 10YR

Value: 6 or 7 dry

C horizon

Hue: 5Y or 2.5Y

Value: 6 or 7 dry, 5 or 6 moist

Chroma: 2 to 4

Texture: clay loam or silty clay loam

Cypher Series

Map units: 503, 600, 604

Depth class: shallow

Drainage class: well drained

Landform: mountain slopes and ridges

Parent material: colluvium and residuum derived from rhyolite and tuff

Elevation: 6,500 to 9,000 feet (1,981 to 2,743 meters)

Slope: 15 to 60 percent

Climatic data:

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Taxonomic class: Loamy-skeletal, mixed, frigid Lithic Ustochrepts

Typical Pedon

Cypher very gravelly loam, in an area of mapping unit 604, Cypher-Mirand complex, 15 to 55 percent slopes; Sandoval County; Bear Springs Peak Quadrangle; about 3/4 mile north of the Bear Springs Guard Station in the Canada de Cochiti; unsectionized; NAD 83, UTM 13—03 59 321 E—39 49 884 N.

Oi—0 to 1 inch; slightly decomposed forest litter.

A—1 inch to 5 inches; brown (10YR 5/3) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak platy structure parting to weak very fine granular; soft, very friable, slightly sticky and nonplastic; many very fine roots; few very fine tubular pores; 10 percent cobbles and 45 percent gravel; slightly acid; clear smooth boundary.

Bw—5 to 12 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; weak medium angular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, few fine, and few coarse roots; common very fine tubular pores; 10 percent cobbles and 40 percent gravel; medium acid; clear smooth boundary.

C—12 to 20 inches; light brown (7.5YR 6/4) extremely gravelly sandy loam, brown (7.5YR 4/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine, few fine, and few coarse roots; common thin clay films on coarse fragments; 10 percent cobbles and 75 percent gravel; slightly acid; abrupt wavy boundary.

2R—20 inches; rhyolite bedrock.

Range in Characteristics

Particle-size control section: 10 to 25 percent clay

Calcium carbonate equivalent: 0 to 5 percent

Depth to bedrock from mineral surface: 10 to 20 inches

A horizon

Hue: 7.5YR or 10YR

Value: 2 to 5 dry, 2 to 4 moist

Chroma: 2 to 4

Texture: very gravelly loam or very cobbly loam

Bw horizon

Hue: 7.5YR or 10YR

Value: 5 to 7 dry, 4 to 6 moist

Chroma: 2 to 4

Texture: very gravelly sandy loam or very gravelly loam

C horizon

Hue: 5YR, 7.5YR or 10YR

Value: 6 or 7 dry, 4 or 5 moist

Chroma: 2 to 4

Texture: extremely gravelly sandy loam or very gravelly loam

Deama Series

Map units: 58, 358

Depth class: very shallow and shallow

Drainage class: well drained

Landform: hills, plateaus, and mesas

Parent material: colluvium derived from limestone

Elevation: 5,800 to 7,000 feet (1,768 to 2,134 meters)

Slope: 10 to 55 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Loamy-skeletal, carbonatic, mesic Lithic Calciustolls

Typical Pedon

Deama very stony silt loam, in an area of mapping unit 58, Deama-El Pedro association, 5 to 30 percent slopes; Sandoval County; Sandia Crest Quadrangle; about .75 mile northwest of La Madera; 1,300 feet west and 1,800 feet south of the northeast corner of sec. 35, T. 12 N., R. 5 E. NAD 83, UTM 13—03 74 645 E—38 98 880 N.

A—0 to 7 inches; dark brown (7.5YR 3/2) very stony silt loam, very dark brown (7.5YR 2/2) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many medium and coarse roots; 20 percent stones, 10 percent cobbles, and 10 percent gravel; strongly effervescent; slightly alkaline; clear smooth boundary.

Bk—7 to 14 inches; pinkish gray (7.5YR 7/2) very cobbly silt loam, dark brown (7.5YR 3/2) moist; weak fine subangular blocky structure; slightly hard, very friable, sticky and plastic; many coarse roots; 7 percent stones, 15 percent cobbles, and 20 percent gravel; violently effervescent; many thin filaments of calcium carbonate; moderately alkaline; abrupt smooth boundary.

2R—14 inches; limestone.

Range in Characteristics

Particle-size control section: 18 to 27 percent clay

Calcium carbonate equivalent: 40 to 60 percent in the particle-size control section

Depth to bedrock: 7 to 20 inches

A horizon

Hue: 5YR to 10YR

Value: 3 to 6 dry, 2 to 4 moist

Chroma: 2 or 3, dry or moist

Texture: very gravelly loam or very stony silt loam

Bk horizon

Hue: 5YR to 10YR

Value: 4 to 8 dry, 3 to 7 moist

Chroma: 2 to 4, dry or moist

Texture: very gravelly loam or very cobbly silt loam

Doakum Series

Map unit: 150

Depth class: very deep

Drainage class: well drained

Landform: bajadas, dipslopes on cuestas, plateaus, drainageways, and hills

Parent material: eolian material and slope alluvium derived from sandstone and shale

Elevation: 6,600 to 7,000 feet (2,012 to 2,134 meters)

Slope: 0 to 5 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Fine-loamy, mixed, mesic Ustalfic Haplargids

Typical Pedon

Doakum fine sandy loam, in an area of mapping unit 150, Doakum-Betonnie fine sandy loams, 0 to 8 percent slopes; Sandoval County; Mule Dam Quadrangle; about 8 miles southwest of Councilor, 800 feet south and 1,400 feet west of the northeast corner of sec. 29, T. 22 N., R. 6 W. NAD 83, UTM 13—02 76 101 E—39 99 272 N.

A—0 to 5 inches; light yellowish brown (10YR 6/4) fine sandy loam, yellowish brown (10YR 5/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine continuous pores; moderately alkaline; clear smooth boundary.

Bt1—5 to 11 inches; brown (7.5YR 5/4) clay loam, dark brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; common fine and medium roots; common very fine and fine continuous pores; few thin clay films on faces of peds; moderately alkaline; clear smooth boundary.

Bt2—11 to 17 inches; brown (7.5YR 5/4) sandy clay loam, dark brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; very hard, firm, slightly sticky and slight plastic; common fine and medium roots; common very fine and fine continuous pores; few thin clay films on faces of peds; moderately alkaline; clear smooth boundary.

Bk1—17 to 24 inches; brown (7.5YR 5/4) sandy clay loam, dark brown (7.5YR 4/4) moist; weak fine subangular blocky structure; hard, firm, slightly sticky and plastic; common very fine roots; few very fine and fine continuous pores; strongly effervescent; few medium irregular soft masses of calcium carbonate; strongly alkaline; clear smooth boundary.

Bk2—24 to 31 inches; very pale brown (10YR 7/3) clay loam, pale brown (10YR 6/3) moist; massive; hard, firm, sticky and plastic; few very fine roots; violently effervescent; few medium irregular soft masses of calcium carbonate; strongly alkaline; clear smooth boundary.

Bk3—31 to 44 inches; very pale brown (10YR 7/3) loam, pale brown (10YR 6/3) moist; massive; very hard, firm, slightly sticky and slightly plastic; few very fine roots; violently effervescent; few medium soft masses and seams of calcium carbonate; strongly alkaline; clear gradual boundary.

C—44 to 60 inches; very pale brown (10YR 7/4) loam, light yellowish brown (10YR 6/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; violently effervescent; strongly alkaline.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay

Salinity: EC of 2 to 8

A horizon*Hue:* 7.5YR or 10YR*Value:* 4 to 6 dry, 3 to 5 moist*Chroma:* 2 to 4**Bt or Btk horizons***Hue:* 5YR or 7.5YR*Value:* 4 to 6 dry, 3 to 5 moist*Chroma:* 2 to 6 dry and moist*Texture:* loam, sandy clay loam, or clay loam**Bk horizon***Hue:* 5YR, 7.5YR or 10YR*Value:* 4 to 8 dry, 4 to 7 moist*Chroma:* 2 to 6*Texture:* loam, fine sandy loam, sandy clay loam, or clay loam*Calcium carbonate equivalent:* less than 15 percent**C horizon***Hue:* 10YR or 7.5YR*Value:* 5 to 7 dry, 4 or 5 moist*Chroma:* 3 or 4*Texture:* loam, very fine sandy loam, fine sandy loam, or loamy fine sand***El Rancho Series****Map units:* 95, 97*Depth class:* very deep*Drainage class:* well drained*Landform:* stream terraces*Parent material:* stream alluvium derived from mixed sources*Elevation:* 5,300 to 5,500 feet (1,615 to 1,676 meters)*Slope:* 0 to 2 percent*Climatic data:**Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 52 to 54 degrees F. (11.1 to 12.2 degrees C.)*Frost-free period:* 120 to 140 days*Taxonomic class:* Fine-loamy, mixed, calcareous, mesic Ustic Torriorthents**Typical Pedon**

El Rancho loam, in an area of mapping unit 95, El Rancho loam, 0 to 2 percent slopes; Sandoval County; San Ysidro Quadrangle; the north edge of San Ysidro; unsectionized; NAD 83, UTM 13—03 39 479 E—39 36 553 N.

Ap—0 to 5 inches; reddish brown (5YR 5/3) loam, dark reddish brown (5YR 3/4) moist; weak fine granular structure; hard, friable, slightly sticky and slightly plastic; common fine and medium roots; violently effervescent; moderately alkaline; abrupt smooth boundary.

C1—5 to 20 inches; reddish brown (5YR 5/4) sandy clay loam, reddish brown (5YR 4/4) moist; weak fine subangular blocky structure; hard, firm, sticky and plastic; common fine and very fine roots; violently effervescent; moderately alkaline; clear smooth boundary.

C2—20 to 38 inches; reddish brown (5YR 5/4) sandy clay loam, reddish brown (5YR 4/4) moist; massive; hard, firm, sticky and plastic; few fine and very fine roots; violently effervescent; moderately alkaline; clear smooth boundary.

2C3—38 to 60 inches; light brown (7.5YR 6/4) sandy loam, brown (7.5YR 4/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; violently effervescent; moderately alkaline.

Range in Characteristics

Particle-size control section: 10 to 27 percent clay and greater than 50 percent sand

A horizon

Hue: 5YR or 7.5YR

Value: 5 or 6 dry, 3 or 4 moist

Chroma: 3 or 4

Texture: loam or clay loam

C horizon

Hue: 5YR or 7.5YR

Value: 5 to 7 dry, 3 to 5 moist

Chroma: 3 to 6

Texture: sandy loam or sandy clay loam

Elpedro Series

Map units: 58, 317, 358

Depth class: very deep

Drainage class: well drained

Landform: benches, fan piedmonts, hills, mesas, and valley sides

Parent material: eolian material and colluvium derived from limestone

Elevation: 5,700 to 7,000 feet (1,737 to 2,134 meters)

Slope: 1 to 40 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Fine-silty, mixed, mesic Aridic Haplustalfs

Typical Pedon

Elpedro loam, in an area of mapping unit 58, Deama-Elpedro association, 5 to 30 percent slopes; Sandoval County; Sandia Park Quadrangle; about 2 miles northeast of La Madera; unsectionized; NAD 83, UTM 13—03 76 147 E—39 00 367 N.

A—0 to 5 inches; brown (7.5YR 4/4) loam, dark brown (7.5YR 3/3) moist; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many fine and medium roots; slightly alkaline; abrupt smooth boundary.

Bt1—5 to 12 inches; dark brown (7.5YR 3/4) silty clay loam, dark brown (7.5YR 3/4) moist; weak medium subangular blocky structure; hard, friable, sticky and plastic; many fine and coarse roots; few thin discontinuous clay films on faces of peds; slightly alkaline; clear smooth boundary.

Bt2—12 to 19 inches; brown (7.5YR 5/4) silty clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, friable, sticky and plastic; few very fine and coarse roots; thin discontinuous clay films on faces of peds; slightly effervescent; moderately alkaline; clear smooth boundary.

Bt3—19 to 25 inches; brown (7.5YR 5/4) silty clay loam, brown (7.5YR 4/4) moist; moderate fine and medium prismatic structure parting to moderate fine subangular blocky; hard, friable, sticky and plastic; few very fine roots; thick continuous clay films on faces of peds; slightly effervescent; few seams and filaments of calcium carbonate; moderately alkaline; clear smooth boundary.

- Btk1—25 to 36 inches; brown (7.5YR 5/4) silty clay loam, brown (7.5R 4/4) moist; strong fine prismatic structure parting to strong fine and medium subangular blocky; hard, friable, sticky and plastic; few very fine roots; thick continuous clay films on faces of peds; strongly effervescent; thin filaments of calcium carbonates on peds; slightly alkaline; clear smooth boundary.
- Btk2—36 to 45 inches; brown (7.5YR 5/4) silt loam, brown (7.5YR 4/4) moist; weak medium prismatic structure; hard, friable, sticky and plastic; few very fine roots; thin continuous clay films on faces of peds; strongly effervescent; seams and filaments of calcium carbonate on faces of peds; slightly alkaline; clear smooth boundary.
- Btk3—45 to 60 inches; brown (7.5YR 5/4) loam, brown (7.5YR 4/4) moist; weak coarse prismatic structure; hard, friable, sticky and plastic; few very fine roots; thin discontinuous clay films on faces of peds; strongly effervescent; few calcium carbonate accumulations; slightly alkaline.

Range in Characteristics

Particle-size control section: 27 to 35 percent clay

Calcium carbonate equivalent: 0 to 15 percent

Reaction: slightly to moderately alkaline

A horizon

Hue: 7.5YR or 10YR

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 2 to 4

Texture: loam or very gravelly loam

Bt and Btk horizons

Hue: 10YR to 5YR

Value: 3 to 6 dry, 4 to 5 moist

Chroma: 3 to 5

Texture: silty clay loam, loam, and silt loam

Bk horizon (when present)

Hue: 7.5YR or 10YR

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

Texture: loam, silt loam, or silty clay loam

Embudo Series

Map units: 108, 109

Depth class: very deep

Drainage class: well drained

Landform: fan remnants and fan terraces

Parent material: fan alluvium derived from granite

Elevation: 5,000 to 5,600 feet (1,524 to 1,707 meters)

Slope: 1 to 15 percent

Climatic data:

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Taxonomic class: Coarse-loamy, mixed, mesic Typic Camborthids

Typical Pedon

Embudo gravelly sandy loam, in an area of mapping unit 109, Embudo-Tijeras association, 1 to 9 percent slopes; Sandoval County; Alameda Quadrangle; about 1.5 miles east of Interstate Highway 25 and about 1 mile north of the Bernalillo-Sandoval County line; 950 feet east and 2,050 feet south of the northwest corner of sec. 32, T. 12 N., R. 4 E. NAD 83, UTM 13—03 59 192 E—38 99 070 N.

A—0 to 4 inches; brown (10YR 5/3) gravelly sandy loam, dark brown (10YR 4/3) moist; weak fine granular structure; slightly hard, friable, nonsticky and nonplastic; many very fine roots; 20 percent gravel; slightly alkaline; clear wavy boundary.

Bw—4 to 12 inches; pale brown (10YR 6/3) gravelly fine sandy loam; dark yellowish brown (10YR 4/3) moist; weak fine granular structure; slightly hard, friable, nonsticky and nonplastic; common fine roots; 15 percent gravel; slightly alkaline; gradual wavy boundary.

Bk1—12 to 30 inches; pale brown (10YR 6/4) gravelly coarse sandy loam, yellowish brown (10YR 5/4) moist; massive; hard, friable, nonsticky and nonplastic; few fine roots; 20 percent gravel; slightly effervescent with few medium rounded soft masses of calcium carbonate; moderately alkaline; gradual wavy boundary.

2Bk2—30 to 60 inches; pale brown (10YR 6/4) gravelly loamy coarse sand, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; 30 percent gravel; slightly effervescent; few fine rounded soft masses of calcium carbonate; moderately alkaline.

Range in Characteristics

Particle-size control section: 5 to 15 percent clay

A and Bw horizons

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 2 to 4

Bk horizon

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 2 to 6

Texture: gravelly coarse sandy loam and sandy loam

2Bk horizon

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 2 to 6

Content of rock fragments: 10 to 70 percent gravel

Texture: gravelly loamy coarse sand or loamy sand

Depth to sandy layer: 18 to 30 inches

Eslendo Series

Map unit: 180

Depth class: very shallow to shallow

Drainage class: well drained

Landform: ridges

Parent material: residuum derived from shale

Elevation: 6,600 to 7,000 feet (2,012 to 2,134 meters)

Slope: 5 to 30 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Loamy, mixed, calcareous, mesic, shallow Ustic Torriorthents

Typical Pedon

Eslendo clay loam, in an area of mapping unit 180, Councelor-Eslendo-Mespun complex, 5 to 30 percent slopes; Galisteo SE Quadrangle; about 16 miles south of Galisteo; 1,760 feet south and 2,400 feet west of the northeast corner of sec. 29, T. 21 N., R. 7 W. NAD 83, UTM 13—02 65 871 E—39 89 619 N.

- A—0 to 3 inches; light brownish gray (2.5Y 6/2) clay loam, grayish brown (2.5Y 5/2) moist; weak fine granular structure; hard, firm, sticky and plastic; few very fine and fine roots; slightly effervescent; moderately alkaline; abrupt smooth boundary.
- C—3 to 10 inches; light yellowish brown (2.5Y 6/4) clay loam, light olive brown (2.5Y 5/4) moist; massive; hard, firm, sticky and plastic; few fine roots; few fine pores; slightly effervescent; disseminated calcium carbonate; moderately alkaline; abrupt smooth boundary.
- Cr—10 inches; soft shale.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay

Soil depth: 4 to 20 inches to soft shale

Espiritu Series

Map units: 325, 345, 346, 353, 398

Depth class: very deep

Drainage class: well drained

Landform: mountain slopes and mesas

Parent material: slope alluvium and colluvium derived from mixed sources

Elevation: 5,300 to 6,900 feet (1,615 to 2,103 meters)

Slope: 8 to 65 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Loamy-skeletal, mixed, mesic Aridic Haplustalfs

Typical Pedon

Espiritu very gravelly fine sandy loam, in an area of mapping unit 345, Espiritu-Bamac association, 15 to 55 percent slopes; Sandoval County; Loma Creston Quadrangle; 11 miles northeast of the Zia Pueblo; unsectionized; NAD 83, UTM 13—03 60 501 E—39 35 768 N.

- A—0 to 6 inches; brown (10YR 5/3) very gravelly fine sandy loam, dark brown (10YR 4/3) moist; weak very fine granular structure; soft, very friable, nonsticky and slightly plastic; many fine and common medium roots; 10 percent cobbles and 30 percent gravel; slightly alkaline; clear smooth boundary.
- Bt1—6 to 15 inches; brown (7.5YR 5/4) very gravelly sandy clay loam, dark brown (7.5YR 3/4) moist; moderate fine and medium subangular blocky structure; hard, firm, sticky and plastic; common fine roots; few fine tubular pores; common thin clay films on faces of peds; 10 percent cobbles and 30 percent gravel; slightly alkaline; clear wavy boundary.
- Bt2—15 to 22 inches; light brown (7.5YR 6/4) very gravelly sandy clay loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few fine roots; few fine tubular pores; few thin

clay films of faces of peds; 10 percent cobbles and 35 percent gravel; slightly alkaline; gradual wavy boundary.

- Bk1—22 to 29 inches; pale brown (10YR 6/3) very cobbly sandy clay loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine tubular pores; 25 percent cobbles and 25 percent gravel; strongly effervescent; few medium irregular soft masses of calcium carbonate; slightly alkaline; gradual wavy boundary.
- Bk2—29 to 38 inches; pale brown (10YR 6/3) very cobbly sandy clay loam, brown (10YR 4/3) moist; massive; slightly hard, friable, slightly sticky, and slightly plastic; 25 percent cobbles and 25 percent gravel; strongly effervescent; few medium irregular soft masses of calcium carbonate; slightly alkaline; clear wavy boundary.
- 2C1—38 to 46 inches; strong brown (7.5YR 5/6) fine sandy loam, brown (7.5YR 4/4) moist; massive; hard, friable, slightly sticky and slightly plastic; strongly effervescent; slightly alkaline; gradual wavy boundary.
- 3C2—46 to 60 inches; reddish yellow (7.5YR 6/6) very gravelly sandy loam, strong brown (7.5YR 4/6) moist; massive; hard, friable, nonsticky and nonplastic; 3 percent cobbles and 35 percent gravel; strongly effervescent; slightly alkaline.

Range in Characteristics

Particle-size control section: 15 to 35 percent clay

A horizon

Hue: 7.5YR or 10YR

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 2 to 4

Texture: extremely cobbly sandy loam, very gravelly loam, and very gravelly fine sandy loam

Bt horizon

Hue: 5YR, 7.5YR or 10YR

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 3 to 6

Bk horizon

Hue: 5YR, 7.5YR or 10YR

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 to 6

Texture: extremely gravelly loamy sand, extremely gravelly sandy loam, very gravelly loam, and very cobbly sandy clay loam

C horizons (when present)

Hue: 5YR, 7.5YR or 10YR

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 to 6

Texture: very gravelly sandy loam, extremely gravelly sandy loam, fine sandy loam, or very gravelly loam

Note: In some pedons, the lower C horizons are sand, very gravelly loamy sand, or extremely gravelly loamy sand.

Ess Series

Map unit: 215

Depth class: very deep

Drainage class: well drained

Landform: mountain slopes

Parent material: colluvium derived from rhyolite

Elevation: 9,000 to 11,000 feet (2,743 to 3,353 meters)

Slope: 5 to 45 percent

Climatic data:

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Taxonomic class: Loamy-skeletal, mixed Argic Cryoborolls

Typical Pedon

Ess very cobbly sandy loam, in an area of mapping unit 215, Ess-Rock outcrop complex, 5 to 45 percent slopes; Sandoval County; Valle Toledo Quadrangle; about 100 yards west of ski lift near Baca Location No. 1; unsectionized; NAD 83, UTM 13—03 73 642 E—39 71 846 N.

A1—0 to 7 inches; very dark gray (10YR 3/1) very cobbly sandy loam, very dark brown (10YR 2/2) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine and medium roots; 5 percent stones, 35 percent cobbles and 10 percent gravel; neutral; clear smooth boundary.

A2—7 to 15 inches; very dark gray (10YR 3/1) very cobbly sandy loam, very dark brown (10YR 2/2) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common fine roots; 5 percent stones, 30 percent cobbles and 10 percent gravel; neutral; clear smooth boundary.

Bt—15 to 29 inches; strong brown (7.5YR 5/6) very cobbly sandy clay loam, dark brown (7.5YR 3/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; few thin discontinuous clay films on rock fragments; 10 percent stones, 30 percent cobbles and 10 percent gravel; neutral; gradual wavy boundary.

C—29 to 60 inches; very pale brown (10YR 7/3) very cobbly loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; 5 percent stones, 20 percent cobbles, and 30 percent gravel; neutral.

Range in Characteristics

Particle-size control section: 20 to 30 percent clay

A horizon

Hue: 7.5YR, 10YR

Value: 3 to 5 dry, and 2 or 3 moist

Chroma: 1 to 3

B horizon

Hue: 5YR, 7.5YR, 10YR

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 3 to 6

Flugle Series

Map unit: 307

Depth class: very deep

Drainage class: well drained

Landform: cuestas, fan terraces, hills, ridges, and valley sides

Parent material: eolian material and fan alluvium derived from sandstone and shale

Elevation: 5,600 to 6,100 feet (1,707 to 1,859 meters)

Slope: 1 to 5 percent

*Climatic data:**Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 48 to 52 degrees F. (10.0 to 11.1 degrees C.)*Frost-free period:* 110 to 130 days*Taxonomic class:* Fine-loamy, mixed, mesic Aridic Haplustalfs**Typical Pedon**

Flugle loam, in an area of mapping unit 307, Flugle-Waumac complex, 1 to 8 percent slopes; Sandoval County; Jemez Pueblo Quadrangle; about 3 miles northeast of Zia Pueblo; 630 feet west and 750 feet south of the northeast corner of sec. 13, T. 15 N., R. 2 E. NAD 83, UTM 13—03 48 170 E—39 33 463 N.

A—0 to 3 inches; yellowish brown (10YR 5/4) loam, dark brown (10YR 4/3) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; many very fine roots; neutral; abrupt smooth boundary.

Bt—3 to 7 inches; brown (7.5YR 5/4) sandy clay loam, dark brown (7.5YR 4/4) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, sticky and plastic; many very fine roots; many very fine tubular pores; common moderately thick clay films on faces of peds; neutral; clear smooth boundary.

Btk1—7 to 12 inches; light brown (7.5YR 6/4) sandy clay loam, brown (7.5YR 5/4) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, sticky and plastic; common very fine roots; many very fine tubular pores; many moderately thick clay films on faces of peds; strongly effervescent; common fine irregular filaments of calcium carbonate; slightly alkaline; clear smooth boundary.

Btk2—12 to 19 inches; light brown (7.5YR 6/4) sandy clay loam, brown (7.5YR 5/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; few thin clay films on faces of peds; strongly effervescent; few fine calcium carbonate accumulations; slightly alkaline; clear smooth boundary.

Bk—19 to 60 inches; pink (7.5YR 7/4) fine sandy loam, light brown (7.5YR 6/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few fine roots; common very fine pores; strongly effervescent; few coarse calcium carbonate accumulations; slightly alkaline.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay and greater than 35 percent sand

A horizon*Hue:* 5YR, 7.5YR or 10YR*Value:* 4 to 6 dry, 3 to 5 moist*Chroma:* 2 to 4**B horizon***Hue:* 5YR, 7.5YR or 10YR*Value:* 3 to 6 dry, 3 to 5 moist*Chroma:* 2 to 6**C or Bk horizon***Hue:* 7.5YR or 10YR*Value:* 5 to 7 dry, 4 to 6 moist*Chroma:* 3 to 6

Fragua Series

Map units: 314, 322

Depth class: deep and very deep

Drainage class: well drained

Landform: fan remnants and dipslopes

Parent material: eolian material and fan alluvium derived from sandstone

Elevation: 5,600 to 7,400 feet (1,707 to 2,256 meters)

Slope: 1 to 70 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Coarse-loamy, mixed, mesic Aridic Haplustalfs

Typical Pedon

Fragua loamy sand, in an area of mapping unit 314, Fragua-Waumac-Royosa complex, 1 to 8 percent slopes; Sandoval County; Jemez Pueblo Quadrangle; 4 miles northeast of Zia Pueblo; 1,310 feet west and 760 feet north of the southeast corner of sec. 7, T. 15 N., R. 3 E. NAD 83, UTM 13—03 49 686 E—39 33 977 N.

- A—0 to 3 inches; brown (10YR 5/3) loamy sand, dark brown (10YR 4/3) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; common fine roots; slightly alkaline; clear smooth boundary.
- Bt1—3 to 8 inches; brown (7.5YR 5/4) sandy loam, dark brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine and few very fine roots; common thin clay films on faces of peds; slightly alkaline; gradual wavy boundary.
- Bt2—8 to 24 inches; brown (7.5YR 5/6) sandy loam, strong brown (7.5YR 4/6) moist; moderate medium subangular blocky structure; hard, friable, nonsticky and nonplastic; few fine roots; few thin clay films on faces of peds; slightly alkaline; clear wavy boundary.
- C—24 to 60 inches; brown (7.5YR 5/4) sandy loam, brown (7.5YR 4/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; few fine roots; slightly alkaline.

Range in Characteristics

Particle-size control section: 10 to 18 percent clay

Depth to bedrock: 40 to more than 60 inches

A horizon

Hue: 7.5YR or 10YR

Value: 5 or 6 dry, 3 or 5 moist

Chroma: 3 or 4 dry, 2 to 4 moist

Texture: loamy sand or very cobbly fine sandy loam

Bt horizon

Hue: 5YR to 10YR

Value: 4 or 6 dry, 3 to 5 moist

Chroma: 4 to 6

Texture: sandy loam, fine sandy loam, or very fine sandy loam

Bk or C horizon

Hue: 7.5YR or 10YR

Value: 5 to 7 dry, 3 to 6 moist

Chroma: 4 to 8 dry, 4 or 6 moist

Texture: loamy fine sand, fine sandy loam, or sandy loam

Frijoles Series

Map unit: 185

Depth class: very deep

Drainage class: well drained

Landform: summits of mesas

Parent material: eolian material and alluvium derived from pumice

Elevation: 6,000 to 7,000 feet (1,829 to 2,134 meters)

Slope: 1 to 8 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Loamy-skeletal over fragmental, mixed, mesic Aridic Haplustalfs

Typical Pedon

Frijoles very fine sandy loam, in an area of mapping unit 185, Frijoles very fine sandy loam, 1 to 8 percent slopes; Los Alamos County; Frijoles Quadrangle; unsectionized; NAD 83, UTM 13—03 83 492 E—39 62 785 N.

- A—0 to 3 inches; brown (10YR 5/3) very fine sandy loam, dark brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; many fine vesicular pores; neutral; abrupt smooth boundary.
- Bt1—3 to 8 inches; brown (7.5YR 4/4) very gravelly clay loam, dark brown (7.5YR 3/4) moist; moderate fine subangular blocky structure; hard, firm, sticky and plastic; many fine roots; many fine vesicular pores; thin discontinuous clay films on faces of peds; 35 percent fine pumice gravel; neutral; clear smooth boundary.
- Bt2—8 to 13 inches; brown (7.5YR 5/4) very gravelly clay loam, dark brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; hard, friable, sticky and plastic; many fine roots; many fine vesicular pores; thin discontinuous clay films on faces of peds; 45 percent fine pumice gravel; neutral clear smooth boundary.
- 2C1—13 to 20 inches; pinkish gray (7.5YR 7/2) extremely gravelly sandy loam, pinkish gray (7.5YR 6/2) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few fine roots; 70 percent pumice gravel; neutral; clear wavy boundary.
- 3C2—20 to 60 inches; pinkish white (7.5YR 8/2) pumice gravel, pinkish gray (7.5YR 7/2) moist; few fine roots; strong brown (7.5YR 5/6) lamella; few fine thin discontinuous clay films within the lamella.

Range in Characteristics

Particle-size control section: 27 to 35 percent clay

Depth to contrasting particle-size: 15 to 30 inches

A horizon

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 2 or 3

Bt horizon*Value:* 4 to 6 dry, 3 or 4 moist*Chroma:* 4 or 6***Galisteo Series****Map units:* 92, 130, 226*Depth class:* very deep*Drainage class:* well drained*Landform:* stream terraces and alluvial fans*Parent material:* stream alluvium derived from mixed sources*Elevation:* 5,500 to 7,000 feet (1,676 to 2,134 meters)*Slope:* 0 to 3 percent*Climatic data:**Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 50 to 54 degrees F. (10.0 to 12.2 degrees C.)*Frost-free period:* 120 to 140 days*Taxonomic class:* Fine, mixed, calcareous, mesic Ustic Torriorthents**Typical Pedon**

Galisteo silty clay loam, in an area of mapping unit 92, Galisteo silty clay loam, moderately saline, sodic, 0 to 1 percent slopes; Sandoval County; San Ysidro Quadrangle; on the west edge of San Ysidro between old and new highway; unsectionized; NAD 83, UTM 13—03 38 222 E—39 35 960 N.

Ap—0 to 12 inches; reddish brown (2.5YR 4/4) silty clay loam, dark reddish brown (2.5YR 3/4) moist; massive; hard, firm, very sticky and very plastic; common fine and medium roots; strongly effervescent; strongly alkaline; clear smooth boundary.

C—12 to 60 inches; reddish brown (2.5YR 4/4) clay, dark reddish brown (2.5YR 3/4) moist; massive; very hard, extremely firm, very sticky and very plastic; few fine and very fine roots; strongly effervescent; moderately alkaline.

Range in Characteristics*Particle-size control section:* 35 to 59 percent clay*Salinity:* EC of 8 to 16*Sodicity:* SAR of 5 to 30**A horizon***Hue:* 2.5YR to 7.5YR*Value:* 4 to 6 dry and 3 to 5 moist*Chroma:* 2 to 4 dry and moist*Texture:* loam, clay loam, and silty clay loam**C horizon***Hue:* 2.5YR to 7.5YR*Value:* 4 to 6 dry and 3 to 5 moist*Chroma:* 2 to 4 dry and moist*Texture:* silty clay loam and clay

Gilco Series

Map units: 20, 25, 421, 423, 823

Depth class: very deep

Drainage class: moderately well drained

Landform: flood plains

Parent material: stream alluvium derived from mixed sources

Elevation: 5,000 to 6,000 feet (1,524 to 1,829 meters)

Slope: 0 to 4 percent

Climatic data:

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Taxonomic class: Coarse-loamy, mixed, calcareous, mesic Typic Torrifuvents

Typical Pedon

Gilco loam, in an area of mapping unit 25, Gilco loam, 0 to 1 percent slope; Sandoval County; Santo Domingo Pueblo Quadrangle; in Pena Blanca area; unsectionized; NAD 83, UTM 13—03 78 027 E—39 35 759 N.

Ap—0 to 4 inches; brown (10YR 5/3) loam, dark brown (10YR 4/3) moist; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many fine and very fine roots; strongly effervescent; moderately alkaline; clear smooth boundary.

C1—4 to 34 inches; light yellowish brown (10YR 6/4) stratified silt loam, loam, and fine sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common fine and very fine roots; strongly effervescent; moderately alkaline; clear smooth boundary.

C2—34 to 60 inches; light yellowish brown (10YR 6/4) stratified loam and fine sandy loam, dark yellowish brown (10YR 4/4) moist; massive; hard, firm, slightly sticky and slightly plastic; few fine roots; strongly effervescent; moderately alkaline.

Range in Characteristics

Particle-size control section: 10 to 18 percent clay

Salinity: EC of 0 to 16

Sodium: SAR less than 13

A Horizon

Hue: 10YR or 7.5YR

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 to 4

Texture: loam or clay loam

C Horizon

Hue: 10YR or 7.5YR

Value: 5 to 7 dry, 4 or 5 moist

Chroma: 2 to 4

Texture: very fine sandy loam, fine sandy loam, silt loam, or loam

Note: The Gilco soil in mapping unit 421 Gilco loam, moderately saline, sodic, 0 to 1 percent slopes, has higher sodium absorption ratios than is typical for the Gilco Series and is considered a taxadjunct to the series.

Grieta Series

Map units: 142, 145

Depth class: very deep

Drainage class: well drained

Landform: fan remnants, mesas, plateaus, and ridges

Parent material: eolian material and fan alluvium derived from mixed sources

Elevation: 5,000 to 6,000 feet (1,524 to 1,829 meters)

Slope: 1 to 5 percent

Climatic data:

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Taxonomic class: Fine-loamy, mixed, mesic Typic Haplargids

Typical Pedon

Grieta loamy fine sand, in an area of mapping unit 145, Grieta-Sheppard loamy fine sands, 2 to 9 percent slopes; Sandoval County; Arroyo de las Calabacillas Quadrangle; about 6 miles northwest of Rio Rancho and 450 feet north and 720 feet east of the southwest corner of sec. 20, T. 13 N., R. 2 E. NAD 83, UTM 13—03 40 104 E—39 11 426 N.

- A—0 to 7 inches; brown (10YR 5/3) loamy fine sand, dark brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; few fine and few very fine roots; slightly alkaline; clear smooth boundary.
- Bt1—7 to 14 inches; yellowish brown (7.5YR 5/4) sandy clay loam, dark yellowish brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, sticky and plastic; common fine and common very fine roots; common thin clay films on faces of peds; moderately alkaline; clear smooth boundary.
- Bt2—14 to 21 inches; pale brown (10YR 6/3) sandy clay loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine very fine roots; 5 percent gravel; slightly effervescent; moderately alkaline; clear smooth boundary.
- Bk1—21 to 38 inches; light yellowish brown (10YR 6/4) coarse sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, slightly sticky and nonplastic; 10 percent gravel; strongly effervescent; few fine irregularly shaped masses and thin coatings of calcium carbonate on undersides of coarse fragments; moderately alkaline; clear smooth boundary.
- Bk2—38 to 50 inches; white (10YR 8/2) coarse sandy loam, yellowish brown (10YR 5/4) moist; massive; hard, friable, slightly sticky and nonplastic; 2 percent gravel; violently effervescent; calcium carbonate as coatings on sand grains and as common fine irregularly shaped masses; moderately alkaline; gradual smooth boundary.
- Bk3—50 to 60 inches; very pale brown (10YR 7/4) coarse sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; 3 percent gravel; strongly effervescent; calcium carbonate as few fine irregularly shaped masses; moderately alkaline.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay and greater than 35 percent sand

Depth to calcic horizon: 20 to 40 inches

A horizon*Hue:* 5YR, 7.5YR or 10YR*Value:* 4 to 6 dry, 3 to 5 moist*Chroma:* 3 to 6*Texture:* loamy fine sand or fine sandy loam**Bt horizon***Hue:* 5YR, 7.5YR or 10YR*Value:* 5 to 7 dry, 4 or 5 moist*Chroma:* 3 to 6*Texture:* fine sandy loam or sandy clay loam**Bk horizon***Hue:* 7.5YR or 10YR*Value:* 5 to 8 dry, 4 to 6 moist*Chroma:* 2 to 6*Texture:* coarse sandy loam, sandy clay loam or loamy sand**Guaje Series***Map unit:* 504*Depth class:* very deep*Drainage class:* well drained*Landform:* basalt-capped mesas, hills, and volcanic cones*Parent material:* basalt, volcanic ash, and pumice*Elevation:* 6,000 to 7,000 feet (1,829 to 2,134 meters)*Slope:* 1 to 8 percent*Climatic data:**Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 48 to 52 degrees F. (10.0 to 11.1 degrees C.)*Frost-free period:* 110 to 130 days*Taxonomic class:* Medial-skeletal, mesic Aridic Ustochrepts**Typical Pedon**

Guaje gravelly sandy loam, in an area of mapping unit 504, Orejas-Guaje complex, 1 to 15 percent slopes; Sandoval County; Cochiti Dam Quadrangle; about 2 miles east of the Witt Peak recreation area boat dock; unsectionized; NAD 83, UTM 13—03 85 099 E—39 44 994 N.

A—0 to 4 inches; brown (10YR 5/3) gravelly sandy loam, dark brown (10YR 4/3) moist; weak medium granular structure; soft, very friable, slightly sticky and nonplastic; many fine and very fine medium roots; common fine interstitial pores; 20 percent fine pumice gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

Bw—4 to 12 inches; yellowish brown (10YR 5/4) gravelly sandy loam, dark yellowish brown (10YR 5/4) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine and common very fine roots; few fine interstitial pores; 10 percent cobbles and 20 percent gravel; slightly effervescent; slightly alkaline; clear wavy boundary.

Bk1—12 to 17 inches; very pale brown (10YR 7/4) very gravelly sandy loam, light yellowish brown (10YR 6/4) moist; weak fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common fine roots; 5 percent cobbles and 55 percent gravel; slightly effervescent; calcium carbonate as common fine soft masses and as coatings on coarse fragments; moderately alkaline; clear wavy boundary.

Bk2—17 to 45 inches; white (N 8/0) and very pale brown (10YR 8/3) extremely gravelly sandy loam, light gray (10YR 7/2) and very pale brown (10YR 7/3) moist; massive; hard, firm, nonsticky and nonplastic; weakly cemented; few fine roots; few fine tubular pores; strongly effervescent; calcium carbonate and siliceous material dominant throughout entire horizon causing 90 percent weak cementation, interrupted only by fractures less than 3 mm wide and less than 4 inches apart; 5 percent cobbles and 60 percent gravel; moderately alkaline; diffuse irregularly boundary.

Bk3—45 to 60 inches; very pale brown (10YR 7/3) very gravelly sandy loam, pale brown (10YR 6/3) moist; massive; soft, very friable, nonsticky and nonplastic; few fine roots; 5 percent cobbles and 50 percent gravel; strongly effervescent; calcium carbonate disseminated throughout and engulfing coarse fragments; moderately alkaline.

Range in Characteristics

Particle-size control section: 5 to 15 percent clay

Depth to the weakly cemented horizon: 12 to 26 inches

A horizon

Hue: 7.5YR or 10YR

Value: 5 to 7 dry, 3 to 5 moist

Chroma: 2 to 4

B horizons

Hue: 7.5YR or 10YR

Value: 5 to 8 dry, 4 to 7 moist

Chroma: 0 to 4

Texture: gravelly, very gravelly, and extremely gravelly sandy loams

Hackroy Series

Map units: 21, 162

Depth class: very shallow to shallow

Drainage class: well drained

Landform: summits of mesas and plateaus

Parent material: residuum from tuff

Elevation: 6,000 to 7,200 feet (1,829 to 2,195 meters)

Slope: 1 to 8 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Clayey, mixed, mesic Lithic Haplustalfs

Typical Pedon

Hackroy sandy loam, in an area of mapping unit 162, Hackroy-Nyjack association, 1 to 5 percent slopes; Los Alamos County; White Rock Quadrangle; on the east end of Ancho Canyon Trail; unsectionized; NAD 83, UTM 13—03 87 647 E—39 61 208 N.

A—0 to 3 inches; brown (10YR 5/3) sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; hard, friable, nonsticky and nonplastic; many fine roots; common fine tubular pores; slightly alkaline; abrupt smooth boundary.

Bt—3 to 13 inches; reddish brown (5YR 4/4) clay, dark reddish brown (5YR 3/4) moist; moderate fine prismatic structure; hard, firm, sticky and plastic; many fine roots; few very fine tubular pores; 3 percent gravel; continuous clay films on faces of peds; slightly alkaline; abrupt smooth boundary.
2R—13 inches; tuff.

Range in Characteristics

Particle-size control section: 35 to 50 percent clay

Depth to lithic contact: 8 to 20 inches

A horizon

Hue: 7.5YR or 10YR

Value: 4 or 6 dry, 2 to 4 moist

Chroma: 2 to 4

Bt1 horizon

Hue: 7.5YR or 5YR

Value: 3 to 6 dry, 3 or 4 moist

Chroma: 4 or 6, dry or moist

Hagerman Series

Map units: 227, 240

Depth class: moderately deep

Drainage class: well drained

Landform: hills, mesas and ridges

Parent material: eolian material and alluvium derived from sandstone

Elevation: 5,700 to 6,400 feet (1,737 to 1,951 meters)

Slope: 1 to 5 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Fine-loamy, mixed, mesic Ustollic Haplargids

Typical Pedon

Hagerman fine sandy loam, in an area of mapping unit 240, Penistaja-Hagerman association, 1 to 5 percent slopes; Sandoval County; Cabezon Peak Quadrangle; about 1.5 miles southeast of the Rio Puerco along the Gas Company of New Mexico pipeline; unsectionized; NAD 83, UTM 13—03 13 428 E—39 43 499 N.

A—0 to 2 inches; brown (7.5YR 5/4) fine sandy loam, dark brown (7.5YR 4/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common medium and many fine roots; moderately alkaline; clear smooth boundary.

Bt—2 to 9 inches; brown (7.5YR 4/4) clay loam, dark brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, firm, sticky and plastic; common medium and many fine roots; thin continuous clay films on faces of peds; moderately alkaline; clear smooth boundary.

Btk—9 to 24 inches; light brown (7.5YR 6/4) clay loam, brown (7.5YR 5/4) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; few medium and many fine roots; few thin clay films on faces of peds; strongly effervescent; few fine accumulations of calcium carbonate; moderately alkaline; clear smooth boundary.

2R—24 inches; sandstone.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay

Depth to bedrock: 20 to 40 inches

A horizon

Hue: 5YR to 10YR

Value: 4 to 6 dry, 3 or 4 moist

Chroma: 2 to 6

Bt horizon

Hue: 7.5YR to 2.5YR

Value: 4 to 7 dry or moist

Chroma: 3 to 6

Btk horizon (when present)

Hue: 7.5YR to 2.5YR

Value: 6 to 8 dry, 5 to 8 moist

Chroma: 3 or 4

Harvey Series

Map units: 53, 54, 59, 65

Depth class: very deep

Drainage class: well drained

Landform: ridges, bajadas, mesas, and plateaus

Parent material: eolian material and fan alluvium derived from mixed sources

Elevation: 5,000 to 6,800 feet (1,524 to 2,073 meters)

Slope: 1 to 15 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Fine-loamy, mixed, mesic Ustollic Calciorthids

Typical Pedon

Harvey loam, in an area of mapping unit 59, Harvey-Ildefonso-La Fonda association, 3 to 15 percent slopes; Sandoval County; Sandia Park Quadrangle; about 1.8 miles west and 50 feet south along pipeline from Highway 14; unsectionized; NAD 83, UTM 13—03 83 907 E—39 00 604 N.

A—0 to 4 inches; pinkish gray (7.5YR 6/2) loam, brown (7.5YR 5/2) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many fine and very fine roots; violently effervescent; moderately alkaline; abrupt smooth boundary.

Bw—4 to 10 inches; pinkish gray (7.5YR 6/2) loam, brown (7.5YR 5/2) moist, weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine roots; violently effervescent; moderately alkaline; clear smooth boundary.

Bk1—10 to 18 inches; pinkish gray (7.5YR 7/2) clay loam, pink (7.5YR 7/4) moist; weak fine subangular blocky structure; hard, firm, sticky and plastic; few fine roots; violently effervescent; many filaments and threads of calcium carbonate; moderately alkaline; clear smooth boundary.

- Bk2—18 to 41 inches; pink (7.5YR 7/4) clay loam, pink (7.5YR 7/4) moist; weak medium angular blocky structure; hard, firm, sticky and plastic; few fine roots; violently effervescent; common filaments and threads of calcium carbonate; moderately alkaline; gradual smooth boundary.
- C—41 to 60 inches; reddish yellow (7.5YR 6/6) sandy clay loam, brown (7.5YR 5/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; violently effervescent; moderately alkaline.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay

A horizon

Hue: 2.5YR to 10YR
Value: 5 to 7 dry, 3 to 6 moist
Chroma: 2 to 6
Texture: fine sandy loam or loam

Bw horizon (when present)

Hue: 5YR, 7.5YR, or 10YR
Value: 4 to 6 dry, 3 to 5 moist
Chroma: 2 to 4
Texture: fine sandy loam, loam, or clay loam

Bk horizon

Hue: 2.5YR to 10YR
Value: 5 to 8 dry, 4 to 7 moist
Chroma: 0 to 6
Texture: sandy loam, loam, sandy clay loam, or clay loam

Hickman Series

Map unit: 23

Depth class: very deep

Drainage class: well drained

Landform: flood plains and valley floors

Parent material: stream alluvium derived from mixed sources

Elevation: 6,500 to 7,500 feet (1,981 to 2,286 meters)

Slope: 1 to 3 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Fine-loamy, mixed, calcareous, mesic Typic Ustifluvents

Typical Pedon

Hickman clay loam, 1 to 3 percent slopes, map unit 23; Sandoval County; Cuba Quadrangle; about 1/2 mile east of La Jara; about 2,100 feet west and 300 feet south of the northeast corner of sec. 33, T. 22 N., R. 1 W. NAD 83, UTM 13—03 24 826 E—39 96 568 N.

- A—0 to 4 inches; brown (10YR 5/3) clay loam, dark grayish brown (10YR 4/3) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; many very fine and fine roots; slightly effervescent; moderately alkaline; abrupt smooth boundary.

- C1—4 to 12 inches; pale brown (10YR 6/3) sandy clay loam, brown (10YR 4/3) moist; massive; hard, firm, sticky and plastic; many very fine and few fine roots; strongly effervescent; slightly alkaline; clear smooth boundary.
- C2—12 to 49 inches; pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; massive; hard, firm, sticky and plastic; few fine and few very fine roots; strongly effervescent; slightly alkaline; clear smooth boundary.
- C3—49 to 60 inches; brown (10YR 5/3) sandy clay loam, brown (10YR 4/3) moist; massive; hard, firm, slightly sticky and slightly plastic; few fine and few very fine roots; strongly effervescent; moderately alkaline.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay

A horizon

Hue: 2.5Y, 10YR or 7.5YR
Value: 5 or 6 dry, 4 or 5 moist
Chroma: 3 or 4

C horizon

Hue: 2.5Y, 10YR or 7.5YR
Value: 4 to 6 dry, 3 to 5 moist
Chroma: 3 to 6

Ildefonso Series

Map units: 34, 56, 59, 64, 65, 210, 218

Depth class: very deep

Drainage class: well drained

Landform: hills, mesas, and fan terraces

Parent material: fan alluvium and colluvium derived from mixed sources

Elevation: 5,000 to 6,800 feet (1,524 to 2,073 meters)

Slope: 1 to 70 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Loamy-skeletal, mixed, mesic Ustollic Calciorthids

Typical Pedon

Ildefonso cobbly loam, in an area of mapping unit 59, Harvey-Ildefonso-La Fonda association, 3 to 15 percent slopes; Sandoval County; Sandia Park Quadrangle; about 1 mile west along pipeline from Highway 14 and the 0.5 mile north in the San Pedro Land Grant; unsectionized, NAD 83, UTM 13—03 85 342 E—38 99 611 N.

- A—0 to 2 inches; brown (7.5YR 5/2) cobbly loam, dark brown (7.5YR 4/2) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many fine and very fine roots; 10 percent cobbles and 5 percent gravel; slightly effervescent; moderately alkaline; abrupt smooth boundary.
- Bw1—2 to 8 inches; brown (7.5YR 5/2) very gravelly loam, dark brown (7.5YR 4/2) moist; weak fine subangular blocky structure; soft, very friable, sticky and plastic; many fine and very fine roots; 10 percent cobbles and 40 percent gravel; violently effervescent; moderately alkaline; clear smooth boundary.

Bw2—8 to 13 inches; pale brown (10YR 6/3) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; soft, friable, sticky and plastic; common very fine and medium roots; 15 percent cobbles and 40 percent gravel; violently effervescent; moderately alkaline; clear wavy boundary.

Bk1—13 to 32 inches; very pale brown (10YR 7/3) very cobbly sandy loam, light brown (7.5YR 6/4) moist; massive; hard, firm, sticky and plastic; few medium roots; 35 percent cobbles and 20 percent gravel; violently effervescent; many filaments and seams of calcium carbonate, and thick coatings of calcium carbonate on coarse fragments; moderately alkaline; clear wavy boundary.

Bk2—32 to 40 inches; very pale brown (10YR 7/3) very cobbly sandy loam, pink (7.5YR 7/4) moist; massive; hard, firm, sticky and plastic; few coarse roots; 35 percent cobbles and 20 percent gravel; violently effervescent; common filaments and seams of calcium carbonate, and thick coatings of calcium carbonate on coarse fragments; moderately alkaline; clear wavy boundary.

C—40 to 60 inches; very pale brown (10YR 7/3) extremely cobbly sand, light brown (7.5YR 6/4) moist; single grain; loose, nonsticky and nonplastic; 60 percent cobbles and 20 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Particle-size control section: 8 to 25 percent clay

A and Bw horizons

Hue: 5YR, 7.5YR, 10YR

Value: 4 to 6 dry, 3 or 4 moist

Chroma: 2 to 6

Texture: very stony loam, very cobbly loam, cobbly loam, gravelly sandy loam, and very gravelly sandy loam

Bk horizon

Hue: 5YR, 7.5YR, 10YR

Value: 5 to 8 dry, 4 to 7 moist

Chroma: 1 to 4

Texture: very cobbly loam, very cobbly sandy loam, very gravelly sandy loam, very stony loam, and extremely cobbly sand

Note: This horizon is weakly cemented in some pedons.

Jarmillo Series

Map units: 302, 304

Depth class: very deep

Drainage class: well drained

Landform: stream terraces

Parent material: alluvium, colluvium, and lacustrine sediments derived from rhyolite and tuff

Elevation: 8,500 to 8,800 feet (2,591 to 2,682 meters)

Slope: 1 to 20 percent

Climatic data:

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Taxonomic class: Coarse-loamy, mixed Pachic Haploborolls

Typical Pedon

Jarmillo loam, in an area of mapping unit 302, Tranquilar-Jarmillo complex, 1 to 8 percent slopes; Sandoval County; Valle San Antonio Quadrangle; about 6 miles northeast of La Cueva on the south side of the east-west fence in San Antonio Valley, and 450 feet west of the point where the fence intersects the road between San Antonio Valley and Sulphur Springs, Baca Location No. 1; unsectionized; NAD 83, UTM 13—03 55 699 E—39 81 078 N.

A1—0 to 4 inches; dark grayish brown (10YR 4/2) loam, very dark brown (10YR 2/2) moist; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many fine, common very fine, and few medium roots; slightly acid; clear smooth boundary.

A2—4 to 13 inches; dark grayish brown (10YR 4/2) loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine and few medium roots; slightly acid; clear smooth boundary.

AB—13 to 20 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine roots; slightly acid; clear wavy boundary.

Bw1—20 to 26 inches; light brownish gray (10YR 6/2) loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; neutral; gradual wavy boundary.

Bw2—26 to 36 inches; matrix of very pale brown (10YR 7/3) loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; lamellae (12) are 1/32 to 5/32 inch thick, brown (10YR 5/3) dry and dark brown (10YR 4/3) moist; few fine and medium roots; neutral; gradual wavy boundary.

Bw3—36 to 41 inches; matrix of light yellowish brown (10YR 6/4) fine sandy loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; lamellae (5) are 1/16 to 1/4 inch thick, grayish brown (10YR 5/2) dry and dark grayish brown (10YR 4/2) moist; few very fine and medium roots; neutral; abrupt wavy boundary.

2Bw4—41 to 51 inches; white (2.5Y 8/2) clay loam, light yellowish brown (2.5Y 6/4) moist; moderate coarse prismatic structure; hard, firm, slightly sticky and plastic; organic stains on prism faces; neutral; abrupt wavy boundary.

3C—51 to 60 inches; white (2.5Y 8/2) very fine sandy loam, light yellowish brown (2.5Y 6/4) moist; massive; hard, firm, slightly sticky and slightly plastic; lamellae (1) 1/8 inch thick, grayish brown (10YR 5/2) dry and very dark grayish brown (10YR 3/2) moist; neutral; clear wavy boundary.

Range in Characteristics

Particle-size control section: 8 to 18 percent clay

A horizon

Hue: 2.5Y or 10YR

Value: 4 or 5 dry, 2 or 3 moist

Chroma: 2 or 3

Texture: silt loam or loam

B horizon

Hue: 2.5Y or 10YR

Value: 6 to 8 dry, 3 to 6 moist

Chroma: 2 to 4

Texture: fine sandy loam, loam, and clay loam

C horizon*Hue:* 2.5Y or 10YR*Value:* 6 to 8 dry, 5 to 7 moist*Chroma:* 2 to 4*Texture:* loam, very fine sandy loam, and sandy loam**Jarola Series***Map unit:* 301*Depth class:* very deep*Drainage class:* poorly drained*Landform:* stream terraces and valley floors*Parent material:* stream alluvium derived from rhyolite, tuff, and pumice*Elevation:* 8,400 to 8,600 feet (2,560 to 2,621 meters)*Slope:* 1 to 5 percent*Climatic data:**Mean annual precipitation:* 20 to 25 inches (508 to 635 millimeters)*Mean annual air temperature:* 42 to 45 degrees F. (5.6 to 7.2 degrees C.)*Frost-free period:* 60 to 90 days*Taxonomic class:* Fine-loamy, mixed, frigid Typic Argialbolls**Typical Pedon**

Jarola silt loam, in an area of mapping unit 301, Vastine-Jarola silt loams, 0 to 5 percent slopes; Sandoval County; Bland Quadrangle; about 100 feet east of main road to headquarters and about 250 feet south of the Jemez River, Baca Location No. 1; unsectionized; NAD 83, UTM 13—03 65 529 E—39 67 968 N.

A—0 to 9 inches; grayish brown (10YR 5/2) silt loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure; slightly hard, friable, sticky and plastic; many fine and very fine roots; slightly acid; abrupt smooth boundary.

E—9 to 11 inches; light gray (10YR 6/1) silt loam, very dark gray (10YR 3/1) moist; weak thin platy structure; slightly hard, friable, slightly sticky and slightly plastic; common fine and very fine roots; neutral; abrupt smooth boundary.

Bt1—11 to 17 inches; dark gray (10YR 4/1) silty clay loam, very dark gray (10YR 3/1) moist; moderate medium prismatic structure parting to moderate medium subangular blocky; very hard, very firm, very sticky and very plastic; many fine roots; many thick clay and organic coatings on faces of peds; neutral; clear smooth boundary.

Bt2—17 to 21 inches; gray (10YR 5/1) clay loam, dark gray (10YR 4/1) moist; moderate medium subangular blocky structure; very hard, very firm, sticky and plastic; few fine roots; common moderately thick organic and clay coatings on faces of peds; neutral; clear smooth boundary.

2C1—21 to 42 inches; grayish brown (10YR 5/2) gravelly sandy clay loam, dark grayish brown (10YR 4/2) moist; massive; hard, firm, sticky and plastic; few fine roots; 15 percent gravel; neutral; gradual smooth boundary.

2C2—42 to 60 inches; grayish brown (2.5Y 5/2) very gravelly sandy loam, dark grayish brown (2.5Y 4/2) moist; single grain; loose, nonsticky and nonplastic; 40 percent gravel; neutral.

Range in Characteristics*Particle-size control section:* 25 to 40 percent clay

A horizon*Value:* 4 or 5 dry, 2 or 3 moist*Chroma:* 1 or 2**E horizon***Value:* 5 to 7 dry, 3 to 5 moist*Chroma:* 1 or 2**B horizon***Hue:* 10YR or 2.5Y*Chroma:* 1 to 3*Texture:* silty clay loam or clay loam**C horizon***Hue:* 10YR or 2.5Y*Value:* 5 to 7 dry, 4 to 6 moist*Chroma:* 1 to 4**Jemez Series***Map units:* 88, 163*Depth class:* moderately deep*Drainage class:* well drained*Landform:* hills and interfluvies of plateaus*Parent material:* slope alluvium derived from tuff*Elevation:* 7,000 to 8,800 feet (2,134 to 2,682 meters)*Slope:* 1 to 15 percent*Climatic data:**Mean annual precipitation:* 20 to 25 inches (508 to 635 millimeters)*Mean annual air temperature:* 42 to 45 degrees F. (5.6 to 7.2 degrees C.)*Frost-free period:* 60 to 90 days*Taxonomic class:* Fine-loamy, mixed Mollic Eutroboralfs**Typical Pedon**

Jemez loam, in an area of mapping unit 88, Totavi-Jemez-Rock outcrop association, 0 to 15 percent slopes; Sandoval County; Redondo Peak Quadrangle; about 2 miles east of Redondo Campground, Baca Location No. 1; unsectionized; NAD 83, UTM 13—03 54 807 E—39 67 297 N.

A1—0 to 6 inches; dark grayish brown (10YR 4/2) loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many fine roots; slightly alkaline; clear smooth boundary.

A2—6 to 13 inches; pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common medium roots; slightly alkaline; clear smooth boundary.

E—13 to 19 inches; light yellowish brown (10YR 6/4) clay loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; hard, friable, sticky and plastic; common medium roots; slightly alkaline; clear smooth boundary.

Bt—19 to 27 inches; pink (7.5YR 7/4) sandy clay loam, brown (7.5YR 5/4) moist; moderate fine and medium subangular blocky structure; hard, firm, sticky and plastic; few fine and medium roots; common thin discontinuous clay films on faces of peds; slightly alkaline; abrupt wavy boundary.

R—27 inches; tuff.

Range in Characteristics

Particle-size control section: 20 to 35 percent clay

Depth to lithic contact: 20 to 40 inches

A horizon

Hue: 10YR or 7.5YR

Value: 2 to 5 dry, 2 to 4 moist

Chroma: 1 to 4

E horizon (a lower A horizon in some pedons)

Hue: 10YR or 7.5YR

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 2 to 4

Bt horizon

Hue: 5YR to 10YR

Value: 4 to 7 dry, 4 or 5 moist

Chroma: 2 to 6

Texture: clay loam or sandy clay loam

Note: 10YR colors occur in the upper part of the Bt horizon or as coatings on faces of peds.

Jocity Series

Map units: 417, 418

Depth class: very deep

Drainage class: moderately well drained

Landform: flood plains and alluvial fans

Parent material: stream alluvium derived from mixed sources

Elevation: 5,300 to 5,600 feet (1,615 to 1,707 meters)

Slope: 0 to 2 percent

Climatic data:

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Taxonomic class: Fine-loamy, mixed, calcareous, mesic Typic Torrifluvents

Typical Pedon

Jocity loam, 0 to 2 percent slope, map unit 417; on the Sandia Pueblo, Sandoval County; Bernalillo Quadrangle; 400 feet south and 450 feet east of the center of sec. 24, of T. 12 N., R. 3 E. NAD 83, UTM 13—03 56 572 E—39 02 182 N.

Ap—0 to 10 inches; brown (10YR 4/3) loam, dark yellowish brown (10YR 3/4) moist; massive; hard, friable, sticky, plastic; common very fine roots; strongly effervescent; moderately alkaline; abrupt smooth boundary.

C1—10 to 26 inches; brown (10YR 4/3) silty clay loam, dark yellowish brown (10YR 3/4) moist; massive; very hard, firm, very sticky and plastic; common very fine roots; strongly effervescent; moderately alkaline; abrupt smooth boundary.

C2—26 to 32 inches; yellowish brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; massive; very hard, friable, very sticky and plastic; few very fine roots; strongly effervescent; moderately alkaline; abrupt smooth boundary.

C3—32 to 50 inches; yellowish brown (10YR 5/4) sandy clay loam, dark yellowish brown (10YR 4/4) moist; massive; very hard, friable, sticky and plastic; few very fine roots; violently effervescent; moderately alkaline; gradual smooth boundary.

C4—50 to 56 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; violently effervescent; strongly alkaline; abrupt smooth boundary.

C5—56 to 60 inches; light yellowish brown (10YR 6/4) loamy sand, yellowish brown (10YR 5/4) moist; loose, nonsticky and nonplastic; violently effervescent; moderately alkaline.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay

A horizon

Hue: 5YR, 7.5YR, 10YR

Value: 4 to 7 dry, 3 to 5 moist

Chroma: 1 to 5, dry or moist

Texture: loam or clay loam

C horizon

Hue: 5YR, 7.5YR, 10YR

Value: 4 to 7 dry, 3 to 5 moist

Chroma: 1 to 6, dry or moist

Texture: stratified, loamy sand, sandy loam, fine sandy loam, loam, silt loam, sandy clay loam, or clay loam

La Fonda Series

Map units: 55, 59

Depth class: very deep

Drainage class: well drained

Landform: fan terraces and fan piedmonts

Parent material: fan alluvium derived from mixed sources

Elevation: 6,000 to 6,800 feet (1,829 to 2,073 meters)

Slope: 1 to 7 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Fine-loamy, mixed, mesic Ustollic Camborthids

Typical Pedon

La Fonda loam, in an area of mapping unit 59, Harvey-Ildefonso-La Fonda association, 3 to 15 percent slopes; Sandoval County; Sandia Park Quadrangle; about 1.8 miles west along pipeline from Highway 14 and 700 feet north; unsectionized; NAD 83, UTM 13—03 85 343 E—38 99 641 N.

A—0 to 3 inches; brown (7.5YR 5/4) loam, brown (7.5YR 4/4) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many fine and medium roots; common very fine irregular pores; violently effervescent; moderately alkaline; abrupt smooth boundary.

Bw1—3 to 7 inches; brown (7.5YR 5/4) loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, sticky and plastic; many fine and very fine roots; common very fine irregular pores; violently effervescent; few fine calcium carbonate accumulations; moderately alkaline; clear smooth boundary.

Bw2—7 to 14 inches; brown (7.5YR 5/4) clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, sticky and plastic; common very fine roots; common very fine irregular pores; violently effervescent; few fine calcium carbonate masses; moderately alkaline; clear smooth boundary.

Bw3—14 to 26 inches; brown (7.5YR 5/4) loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; hard, friable, sticky and plastic; common very fine roots; common very fine irregular pores; violently effervescent; few fine calcium carbonate masses; moderately alkaline; clear smooth boundary.

Bk1—26 to 42 inches; light brown (7.5YR 6/4) loam, brown (7.5YR 5/4) moist; weak fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine irregular pores; violently effervescent; common fine soft calcium carbonate accumulations; moderately alkaline; clear smooth boundary.

Bk2—42 to 60 inches; light brown (7.5YR 6/4) loam, brown (7.5YR 5/4) moist; weak medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine irregular pores; violently effervescent; common fine soft calcium carbonate masses; moderately alkaline.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay

A horizon

Hue: 2.5YR to 7.5YR

Value: 4 to 6 dry, 3 or 4 moist

Chroma: 3 or 4

Bw horizon

Hue: 2.5YR to 7.5YR

Value: 4 to 7 dry, 3 to 5 moist

Chroma: 3 to 6

Bk and C horizons

Hue: 5YR or 7.5YR

Chroma: 3 or 4

Laventana Series

Map units: 601, 603

Depth class: deep

Drainage class: well drained

Landform: mountain slopes and pediments

Parent material: colluvium derived from andesite and granite

Elevation: 7,000 to 8,900 feet (2,134 to 2,713 meters)

Slope: 3 to 55 percent

Climatic data:

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Taxonomic class: Loamy-skeletal, mixed, Mollic Eutroboralfs

Typical Pedon

Laventana very cobbly loam in an area of mapping unit 603, Laventana-Mirand very cobbly loams, 15 to 55 percent slopes; Sandoval County; Bear Springs Peak

Quadrangle; about 2 miles northwest of Bear Springs Peak; NAD 83, UTM 13—03 56 588 E—39 51 074 N.

O—0 to 1 inch; forest litter.

A—1 inch to 4 inches; brown (10YR 4/3) very cobbly loam, dark brown (10YR 3/3) moist; moderate very thin platy structure; soft, very friable, nonsticky and nonplastic; many very fine and few fine roots; many very fine tubular pores; 2 percent stones, 35 percent cobbles, and 15 percent gravel; slightly acid; clear smooth boundary.

E—4 to 11 inches; light yellowish gray (10YR 6/2) gravelly silt loam, dark grayish brown (10YR 4/2) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; many very fine and a few fine, medium and coarse roots; common very fine and a few fine tubular pores; 5 percent cobbles and 20 percent gravel; slightly acid; clear smooth boundary.

Bt1—11 to 19 inches; brown (10YR 5/3) very cobbly loam, dark brown (10YR 4/3) moist; strong medium subangular blocky structure parting to strong fine angular blocky; hard, firm, sticky and plastic; common very fine roots; many very fine tubular pores; common thin clay films on faces of peds and in pores; 25 percent cobbles and 15 percent gravel; slightly acid; gradual smooth boundary.

Bt2—19 to 30 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 4/3) moist; strong very fine and medium angular blocky structure; hard, firm, sticky and plastic; common very fine roots; many very fine tubular pores; common thin clay films on faces of peds and in pores; 10 percent cobbles and 40 percent gravel; slightly acid; gradual smooth boundary.

Bt3—30 to 50 inches; pale brown (10YR 6/3) very gravelly loam, dark brown (10YR 4/3) moist; moderate medium angular blocky structure; hard, firm, slightly sticky and slightly plastic; few very fine roots; common very fine tubular pores; common moderately thick clay films on faces of peds and in pores; 10 percent cobbles and 40 percent gravel; neutral; abrupt wavy boundary.

2R—50 inches; fractured andesite.

Range in Characteristics

Particle-size control section: 20 to 35 percent clay

Depth to bedrock: between 40 and 60 inches

A horizon

Value: 3 to 6 dry, 2 or 3 moist (when mixed to 7 inches the values are 5 or less dry)

Chroma: 2 or 3

Texture: gravelly sandy loam or very cobbly

E horizon

Value: 5 to 7 dry

Chroma: 2 or 3

Texture: very gravelly loam or gravelly silt loam

Bt horizons

Hue: 7.5YR or 10YR

Value: 5 to 7 dry, 4 or 5 moist

Chroma: 3 to 6

Texture: very gravelly loam, very cobbly loam, or very gravelly sandy clay loam

Depth to the base of the Bt horizons: 40 inches or more

Lybrook Series

Map unit: 101

Depth class: very deep

Drainage class: well drained

Landform: stream terraces and valley floors

Parent material: stream alluvium derived from mixed sources

Elevation: 6,600 to 7,000 feet (2,012 to 2,134 meters)

Slope: 0 to 2 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Fine, mixed, calcareous, mesic Ustic Torriorthents

Typical Pedon

Lybrook clay loam in an area of map unit 101, Blancot-Lybrook association, 0 to 8 percent slopes; Sandoval County; Lybrook SE Quadrangle; about 15 miles south of Lybrook; 2,640 feet north and 2,640 feet east of the southwest corner of sec. 3, T. 21 N., R. 7 W. NAD 83, UTM 13—02 69 155 E—39 95 751 N.

A—0 to 1 inch; pale brown (10YR 6/3) clay loam, brown (10YR 5/3) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; slightly effervescent; moderately alkaline; clear smooth boundary.

C1—1 inch to 5 inches; brown (10YR 5/3) silty clay loam, brown (10YR 4/3) moist; moderate fine granular structure; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; moderately alkaline; clear smooth boundary.

C2—5 to 21 inches; brown (10YR 5/3) clay loam, brown (10YR 4/3) moist; massive; very hard, very firm, sticky and plastic; few very fine roots; moderately alkaline; clear gradual boundary.

C3—21 to 30 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 4/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; slightly effervescent; moderately alkaline; clear smooth boundary.

C4—30 to 60 inches; brown (10YR 5/3) clay loam, brown (10YR 4/3) moist; massive; hard, firm, sticky and plastic; few fine roots; strongly effervescent; very strongly alkaline.

Range in Characteristics

Particle-size control section: 35 to 45 percent clay

Salinity: EC of 2 to 4

Sodicity: SAR of 13 to 30

A horizon

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 or 3

C horizon

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 through 4

Texture: clay loam or silty clay loam

Menefee Series

Map units: 17, 105, 129, 220, 324, 396, 422

Depth class: very shallow and shallow

Drainage class: well drained

Landform: hillslopes, mesas, and mountainsides

Parent material: colluvium and residuum derived from shale

Elevation: 5,700 to 7,800 feet (1,737 to 2,377 meters)

Slope: 2 to 45 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Loamy, mixed, calcareous, mesic, shallow Typic Ustorthents

Typical Pedon

Menefee clay loam, in an area of mapping unit 129, Menefee clay loam, 5 to 35 percent slopes; Sandoval County; Regina Quadrangle; about 1.5 miles north and 1.5 miles east of Regina; 50 feet east and 50 feet north of the center of sec. 22, T. 23 N., R. 1 W. NAD 83, UTM 13—03 26 573 E—40 08 671 N.

A—0 to 5 inches; light yellowish brown (2.5Y 6/4) clay loam, olive brown (2.5Y 4/4) moist; weak fine and medium subangular blocky structure; slightly hard, friable, sticky and plastic; common very fine and few fine roots; slightly effervescent; moderately alkaline; clear smooth boundary.

C1—5 to 10 inches; light olive brown (2.5Y 5/4) clay loam, olive brown (2.5Y 4/4) moist; massive; hard, firm, sticky and plastic; few fine and medium roots; slightly effervescent; moderately alkaline; clear smooth boundary.

C2—10 to 17 inches; light brownish gray (2.5Y 6/3) clay loam, grayish brown (2.5Y 5/3) moist; massive; hard, firm, sticky and plastic; few very fine and medium roots; strongly effervescent; very strongly alkaline; gradual irregular boundary.

2Cr—17 inches; soft calcareous shale.

Range in Characteristics

Depth to paralithic contact: 8 to 20 inches

A horizon

Hue: 10YR or 2.5Y

Value: 4 to 7 dry, 3 to 5 moist

Chroma: 2 to 4

Texture: loam, clay loam, gravelly loam, or gravelly clay loam

C horizons

Hue: 10YR or 2.5Y

Value: 5 to 7, 4 to 6 moist

Chroma: 2 to 5

Mespun Series

Map unit: 180

Depth class: very deep

Drainage class: excessively drained

Landform: dunes

Parent material: eolian sands derived mainly from sandstone

Elevation: 6,600 to 7,000 feet (2,012 to 2,134 meters)

Slope: 5 to 30 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Mixed, mesic Ustic Torripsamments

Typical Pedon

Mespun loamy fine sand, in an area of mapping unit 180, Councilor-Eslendo-Mespun complex, 5 to 30 percent slopes; Sandoval County; Galisteo SE Quadrangle; about 17 miles south of Galisteo; 1,560 feet south and 2,400 feet east of the NW corner of sec. 29, T. 21 N., R. 7 W. NAD 27; UTM 13—02 65 728 E—39 89 688 N.

A—0 to 6 inches; light yellowish brown (10YR 6/4) loamy fine sand, yellowish brown (10YR 5/4) moist; weak fine granular structure; loose, nonsticky and nonplastic; few very fine roots; moderately alkaline; clear smooth boundary.

C—6 to 60 inches; brown (7.5YR 5/4) loamy sand, brown (7.5YR 4/4) moist; single grain, loose, nonsticky and nonplastic; few very fine roots; moderately alkaline.

Range in Characteristics

Particle-size control section: 3 to 8 percent clay

A horizon

Hue: 7.5YR

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 3 to 6

C horizon

Hue: 7.5YR

Value: 4 to 7 dry, 3 to 6 moist

Chroma: 3 to 8

Mirand Series

Map units: 283, 603, 604

Depth class: very deep

Drainage class: well drained

Landform: mountain slopes and canyons

Parent material: colluvium derived from rhyolite and tuff

Elevation: 6,900 to 9,500 feet (2,103 to 2,896 meters)

Slope: 5 to 55 percent

Climatic data:

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Taxonomic class: Fine, mixed Mollic Eutroboralfs

Typical Pedon

Mirand loam, in an area of mapping unit 283, Mirand-Alanos complex, 5 to 40 percent slopes; Sandoval County; Valle San Antonio Quadrangle; in the upper end of Redondo Canyon, 20 feet south of gate leading from hot well area into Baca Location No. 1; unsectionized; NAD 83, UTM 13—03 58 447 E—39 73 092 N.

O—0 to 2 inches; decomposed organic matter from grasses and needles.

- A—2 to 4 inches; very dark grayish brown (10YR 3/2) loam, very dark brown (10YR 2/2) moist; weak fine granular structure; hard, very friable, sticky and plastic; few fine roots; 5 percent gravel; neutral; abrupt smooth boundary.
- Bt1—4 to 9 inches; brown (7.5YR 5/4) clay loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; slightly hard, friable, sticky and plastic; common fine roots; common thin clay films on faces of peds; 10 percent gravel; slightly acid; clear smooth boundary.
- Bt2—9 to 15 inches; brown (7.5YR 5/4) clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; very hard, firm, sticky and plastic; common fine and medium roots; many thick clay films on faces of peds; 15 percent gravel; neutral; clear smooth boundary.
- Bt3—15 to 24 inches; yellowish red (5YR 5/6) clay loam, yellowish red (5YR 4/6) moist; moderate medium prismatic structure parting to moderate medium subangular blocky; very hard, firm, very sticky and very plastic; few fine roots; many thick clay films on faces of peds; 10 percent gravel; neutral; clear smooth boundary.
- Bt4—24 to 45 inches; reddish brown (5YR 5/4) clay, reddish brown (5YR 4/4) moist; moderate medium and coarse prismatic structure parting to moderate medium subangular blocky; extremely hard, firm, very sticky and very plastic; few very fine roots; many thick clay films on faces of peds; 10 percent gravel; slightly acid; abrupt wavy boundary.
- 2Bt5—45 to 60 inches; pink (7.5YR 7/4) clay loam, light brown (7.5YR 6/4) moist; common fine distinct strong brown (7.5YR 5/6) mottles; massive; very hard, firm, sticky and plastic; few medium roots; common thick clay film line pores; 10 percent gravel; very strongly acid.

Range in Characteristics

Particle-size control section: 35 to 55 percent clay

A horizon

Value: 3 to 5 dry, 2 or 3 moist

Chroma: 1 or 2

Texture: loam or very cobbly loam

Bt horizon

Hue: 5YR to 10YR

Value: 5 to 7 dry, 4 to 6 moist

Chroma: 3 to 6

Texture: clay loam, gravelly clay loam, sandy clay, clay, or cobbly clay

Montecito Series

Map units: 3, 4, 104

Depth class: very deep

Drainage class: well drained

Landform: hills, summits of mesas and plains

Parent material: eolian material and fan alluvium derived from sandstone and shale

Elevation: 6,000 to 7,600 feet (1,829 to 2,316 meters)

Slope: 1 to 30 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Fine, mixed, mesic Aridic Haplustalfs

Typical Pedon

Montecito loam, in an area of mapping unit 104, Cochiti-Montecito association, 1 to 30 percent slopes; Sandoval County; Canada Quadrangle; 10 miles northwest of Cochiti Pueblo; 2,400 feet north and 300 feet east of the center of sec. 2, T. 16 N., R. 4 E. NAD 83, UTM 13—03 65 540 E—39 46 249 N.

A—0 to 3 inches; brown (10YR 5/3) loam, brown (10YR 4/3) moist; weak fine granular structure; slightly hard, friable, sticky and plastic; common medium roots; neutral; abrupt smooth boundary.

Bt1—3 to 9 inches; brown (7.5YR 5/4) clay loam, brown (7.5YR 4/4) moist; weak coarse prismatic structure parting to moderate medium subangular blocky; hard, firm, very sticky and very plastic; few fine and very fine roots; many thick clay films on faces of peds; neutral; clear smooth boundary.

Bt2—9 to 15 inches; brown (7.5YR 5/4) clay loam, brown (7.5YR 4/4) moist; weak coarse prismatic structure parting to moderate medium subangular blocky; hard, firm, very sticky and very plastic; few very fine roots; many thick clay films on faces of peds; slightly alkaline; clear smooth boundary.

Bt3—15 to 22 inches; brown (7.5YR 5/4) clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; few very fine roots; many thick clay films on faces of peds; moderately alkaline; abrupt wavy boundary.

2Bk1—22 to 37 inches; pinkish white (7.5YR 8/2) sandy loam, pink (7.5YR 7/4) moist; massive; soft, friable, slightly sticky and slightly plastic; few very fine roots; 10 percent gravel; violently effervescent; common weakly cemented calcium carbonate masses; moderately alkaline; gradual wavy boundary.

2Bk2—37 to 60 inches; pinkish white (7.5YR 8/2) gravelly sandy loam, pink (7.5YR 7/4) moist; massive; soft, friable, slightly sticky and slightly plastic; 25 percent gravel; violently effervescent; common weakly cemented calcium carbonate masses; moderately alkaline.

Range in Characteristics

Particle-size control section: 35 to 50 percent clay

Depth to the calcic horizon: 10 to 35 inches

A Horizon

Hue: 7.5YR or 10YR

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 3 to 6

Texture: fine sandy loam, loam, or extremely bouldery loam

Bt Horizon

Hue: 7.5YR or 10YR

Value: 4 to 6 dry, 3 to 5 moist.

Chroma: 3 to 6

Bk Horizon

Hue: 7.5YR or 10YR

Value: 6 to 8 dry, 5 to 8 moist

Chroma: 1 to 4

Texture: sandy loam, gravelly sandy loam, loam, or clay loam

Nyjack Series

Map unit: 162

Depth class: moderately deep

Drainage class: well drained

Landform: summits of mesas and plateaus

Parent material: eolian material and slope alluvium derived from tuff

Elevation: 6,000 to 7,000 feet (1,829 to 2,134 meters)

Slope: 1 to 5 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Fine-loamy, mixed, mesic Aridic Haplustalfs

Typical Pedon

Nyjack loam, in an area of mapping unit 162, Hackroy-Nyjack association, 1 to 5 percent slopes; Los Alamos County; Frijoles Quadrangle; about .5 mile east of LASL Administration Building, 2,000 feet west, 660 feet west, 660 feet south of the southwest corner of sec. 21, T. 19 N., R. 6 E. NAD 83, UTM 13—03 81 468 E—39 68 841 N.

A—0 to 3 inches; brown (10YR 5/3) loam, dark brown (7.5YR 3/2) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; many vesicular pores; slightly acid; abrupt smooth boundary.

Bt1—3 to 13 inches; brown (7.5YR 5/4) clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many fine medium roots; many vesicular pores; few thin clay films on faces of peds; neutral; clear smooth boundary.

Bt2—13 to 24 inches; brown (7.5YR 4/4) clay loam, dark brown (7.5YR 3/4) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; few fine roots; many fine tubular pores; thin discontinuous clay films on faces of peds; neutral; abrupt smooth boundary.

2C—24 to 39 inches; light brown (7.5YR 6/4) gravelly sandy loam, brown (7.5YR 4/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; few fine roots; 25 percent pumice gravel; neutral; abrupt smooth boundary.

Cr—39 inches; tuff bedrock.

Range in Characteristics

Particle-size control section: 27 to 35 percent clay

Depth to paralithic contact: 20 to 40 inches

A horizon

Hue: 7.5YR or 10YR

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 2 to 4, dry or moist

Bt horizons

Hue: 5YR to 10YR

Value: 4 to 7 dry, 3 to 5 moist

Chroma: 3 to 6, dry or moist

Bt3 horizon (when present)

Hue: 5YR to 10YR

Value: 4 to 7 dry, 3 to 5 moist

Chroma: 3 to 6, dry or moist

2C horizon

Hue: 5YR to 10YR*Value:* 4 to 6 dry, 4 or 5 moist*Chroma:* 3 or 4 dry**Orejas Series***Map units:* 3, 100, 504*Depth class:* shallow*Drainage class:* well drained*Landform:* mesas and plateaus*Parent material:* eolian material, slope alluvium, and colluvium derived from basalt*Elevation:* 6,000 to 7,600 feet (1,829 to 2,316 meters)*Slope:* 1 to 40 percent*Climatic data:**Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 48 to 52 degrees F. (10.0 to 11.1 degrees C.)*Frost-free period:* 110 to 130 days*Taxonomic class:* Clayey-skeletal, mixed, mesic Lithic Haplustalfs**Typical Pedon**

Orejas cobbly loam, in an area of mapping unit 3, Montecito-Orejas complex, 1 to 7 percent slopes; Sandoval County; Cabezon Peak Quadrangle; on Mesa Prieta; 2,000 feet north and 350 feet east of the southwest corner of sec. 10, T. 15 N., R. 2 W. NAD 83, UTM 13—03 14 762 E—39 34 960 N.

A—0 to 2 inches; yellowish brown (10YR 5/4) cobbly loam, dark yellowish brown (10YR 3/4) moist; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; 30 percent cobbles; slightly alkaline; abrupt smooth boundary.

Bt1—2 to 5 inches; brown (10YR 4/3) very cobbly clay loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; hard, friable, sticky and plastic; common moderately thick clay films on faces of peds; 45 percent cobbles; neutral; clear smooth boundary.

Bt2—5 to 14 inches; dark yellowish brown (10YR 4/4) very cobbly clay loam, dark yellowish brown (10YR 3/4); moderate fine and medium subangular blocky structure; hard, firm, very sticky and very plastic; many thick clay films on faces of peds; 45 percent cobbles; moderately alkaline; clear smooth boundary.

Bt3—14 to 17 inches; brown (10YR 5/3) very cobbly clay loam, brown (10YR 4/3) moist; moderate medium and coarse subangular blocky structure; hard, firm, sticky and plastic; few moderately thick clay films on faces of peds; 45 percent cobbles; slightly effervescent; moderately alkaline; clear smooth boundary.

C—17 to 19 inches; pale brown (10YR 6/3) very gravelly clay loam, brown (10YR 4/3) moist; massive; hard, firm, sticky and plastic; 10 percent cobbles and 30 percent gravel; violently effervescent; moderately alkaline; abrupt smooth boundary.

R—19 inches; basalt.

Range in Characteristics*Particle-size control section:* 35 to 50 percent clay*Depth to bedrock:* 10 to 20 inches

A horizon

Hue: 7.5YR or 10YR*Value:* 5 or 6 dry, 3 or 4 moist*Chroma:* 2 to 4*Texture:* cobbly loam, very cobbly loamy, or very stony loam

Bt horizon*Hue:* 7.5YR or 10YR*Value:* 4 to 6 dry, 3 or 4 moist*Chroma:* 2 to 4**C horizons***Value:* 5 or 6 dry, 4 or 5 moist*Chroma:* 2 or 3*Texture:* very gravelly clay loam or very cobbly clay loam**Origo Series***Map units:* 74, 75*Depth class:* very deep*Drainage class:* well drained*Landform:* mountain slopes*Parent material:* slope alluvium and colluvium derived from rhyolite and tuff*Elevation:* 8,600 to 10,000 feet (2,621 to 3,048 meters)*Slope:* 15 to 65 percent*Climatic data:**Mean annual precipitation:* 25 to 30 inches (635 to 762 millimeters)*Mean annual air temperature:* 38 to 42 degrees F. (3.3 to 5.6 degrees C.)*Frost-free period:* 45 to 60 days*Taxonomic class:* Loamy-skeletal, mixed Psammentic Cryoboralfs**Typical Pedon**

Origo very cobbly sandy loam, in an area of mapping unit 75, Origo very cobbly sandy loam, 35 to 65 percent slopes; Sandoval County; Valle San Antonio Quadrangle; about 7 miles north of La Cueva on the north side of Cerro Seco, Baca Location No. 1; NAD 83, UTM 13—03 58 587 E—39 80 079 N.

0—0 to 1 inch; leaves, needles, twigs, and bark.

A1—1 inch to 5 inches; gray (10YR 5/1) very cobbly sandy loam, very dark gray (10YR 3/1) moist; moderate fine and medium granular structure; soft, very friable, slightly sticky and slightly plastic; few coarse and many fine roots; 10 percent stones, 40 percent cobbles, and 5 percent gravel; slightly acid; clear smooth boundary.

A2—5 to 11 inches; light brownish gray (10YR 6/2) very cobbly sandy loam, dark grayish brown (10YR 4/2) moist; moderate fine and medium granular structure; soft, very friable, slightly sticky and slightly plastic; many fine, medium roots and common coarse roots; 10 percent stones, 40 percent cobbles, and 5 percent gravel; neutral; gradual smooth boundary.

E—11 to 31 inches; very pale brown (10YR 7/3) very cobbly sandy loam, brown (10YR 5/3) moist; weak fine subangular blocky structure parting to moderate fine granular; slightly hard, friable, slightly sticky and nonplastic; many fine and common medium roots; 10 percent stones, 40 percent cobbles, and 5 percent gravel; neutral; gradual wavy boundary.

Bt1—31 to 55 inches; very pale brown (10YR 7/3) very cobbly sandy loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; (lamellae are 1/4 to 1 inch thick and comprise about 7 inches of the horizon; light brown (7.5YR 6/4) sandy loam, brown (7.5YR 5/4) moist;) massive; slightly hard, friable, slightly sticky and slightly plastic; few coarse medium roots;) clay films on sand grains and clay bridging sand grains in

lamellae; 10 percent stones and 40 percent cobbles; very strongly acid; gradual wavy boundary.

Bt2—55 to 60 inches; white (10YR 8/2) very cobbly loamy sand, very pale brown (10YR 7/3) moist; massive; slightly hard, firm, nonsticky and nonplastic; (lamellae are 1/4 to 1 inch thick; light brown (7.5YR 6/4) sandy loam, brown (7.5YR 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; clay films on sand grains and clay bridging sand grains;) few coarse and medium roots; 10 percent stones and 40 percent cobbles; very strongly acid.

Range in Characteristics

Particle-size control section: 5 to 20 percent clay

A horizon

Value: 5 or 6 dry, 3 to 5 moist

Chroma: 1 to 3

E horizon

Hue: 7.5YR or 10YR

Value: 7 or 8 dry, 5 to 7 moist

Chroma: 1 to 4

Texture: extremely cobbly sandy loam and very cobbly sandy loam

Bt horizon

Hue: 10YR or 7.5YR

Value: 5 to 8 dry, 5 to 7 moist

Chroma: 2 to 4

Texture: very cobbly loamy sand, very cobbly sandy loam, and extremely cobbly sandy loam

Depth to the Bt horizon: 18 to 34 inches

Bt lamellae

Hue: 7.5YR or 10YR

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

Texture: sandy loam and sandy clay loam

Orlie Series

Map units: 24, 26, 422

Depth class: very deep

Drainage class: well drained

Landform: dipslopes of cuestas, mesas, hills, and valley sides

Parent material: eolian material and fan alluvium derived from sandstone and shale

Elevation: 6,100 to 7,500 feet (1,859 to 2,286 meters)

Slope: 0 to 8 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Fine-loamy, mixed, mesic Aridic Haplustalfs

Typical Pedon

Orlie loam, in an area of mapping unit 26, Orlie loam, 0 to 8 percent slopes; Sandoval County; Jarosa Quadrangle; 6 miles west of the continental divide along the boundary

of the Jicarilla Indian Reservation; 1,075 feet south and 700 feet west of the northeast corner of sec. 6, T. 21 N., R. 3 E. NAD 83, UTM 13—03 51 252 E—39 94 408 N.

- A—0 to 2 inches; pale brown (10YR 6/3) loam, dark brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; few coarse and common fine roots; moderately alkaline; clear smooth boundary.
- Bt1—2 to 13 inches; brown (10YR 5/3) clay loam, dark brown (10YR 4/3) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; common fine and very fine roots; few thin clay films on faces of peds; moderately alkaline; clear smooth boundary.
- Bt2—13 to 22 inches; brown (10YR 5/3) clay loam, dark brown (10YR 4/3) moist; weak medium subangular blocky structure; hard, firm, sticky and plastic; few fine and medium roots; few thin clay films on faces of peds; slightly effervescent; moderately alkaline; clear smooth boundary.
- C1—22 to 36 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 5/3) moist; massive; hard, firm, sticky and plastic; few very fine roots; slightly effervescent; moderately alkaline; clear smooth boundary.
- C2—36 to 50 inches; brown (7.5YR 5/4) clay loam, brown (10YR 5/3) moist; massive; hard, firm, sticky and plastic; few very fine roots; slightly effervescent; moderately alkaline; clear smooth boundary.
- C3—50 to 60 inches; pale brown (10YR 6/3) silty clay loam, dark brown (10YR 4/3) moist; massive; hard, firm, sticky and plastic; few fine roots; slightly effervescent; moderate alkaline.

Range in Characteristics

Particle-size control section: 27 to 35 percent clay

A horizon

Hue: 7.5YR or 10YR
Value: 4 to 6 dry, 3 to 5 moist
Chroma: 2 to 4
Texture: fine sandy loam or loam

Bt horizon

Hue: 5YR, 7.5YR or 10YR
Value: 4 to 6 dry, 3 to 5 moist
Chroma: 3 to 6
Texture: clay loam or silty clay loam

C or Bk horizons (when present)

Hue: 7.5YR or 10YR
Value: 4 or 6 dry, 3 or 5 moist
Chroma: 3 or 4 dry, 3 to 6 moist
Texture: sandy clay loam, clay loam, or silty clay loam

Osha Series

Map units: 500, 608

Depth class: deep

Drainage class: somewhat excessively drained

Landform: mountain slopes and ridges

Parent material: colluvium and residuum derived from granite

Elevation: 7,000 to 9,000 feet (2,134 to 2,743 meters)

Slope: 3 to 70 percent

*Climatic data:**Mean annual precipitation:* 20 to 25 inches (508 to 635 millimeters)*Mean annual air temperature:* 42 to 45 degrees F. (5.6 to 7.2 degrees C.)*Frost-free period:* 60 to 90 days*Taxonomic class:* Loamy-skeletal, mixed Typic Haploborolls**Typical Pedon**

Osha gravelly coarse sandy loam, in an area of mapping unit 608, Osha association, 3 to 55 percent slopes; Sandoval County; San Miquel Mountain Quadrangle; about 6 miles east and 2 miles south of Laventana; NAD 83, UTM 13—03 31 585 E—39 62 960 N.

A—0 to 3 inches; very dark gray (10YR 3/1) gravelly coarse sandy loam, (10YR 2/1) moist; moderate very fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine, fine, and medium roots; common very fine tubular pores; 20 percent gravel; neutral; clear smooth boundary.

AB—3 to 8 inches; grayish brown (10YR 5/2) gravelly coarse sandy loam, very dark grayish brown (10YR 3/2) moist; moderate medium and fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and medium and few coarse roots; many very fine tubular pores; 20 percent gravel; slightly acid; clear smooth boundary.

Bw—8 to 16 inches; light brown (7.5YR 6/4) gravelly coarse sandy loam, dark yellowish brown (10YR 3/4) moist; moderate medium and fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine and common medium roots; many very fine tubular pores; 20 percent gravel; neutral; clear smooth boundary.

Ct1—16 to 32 inches; strong brown (7.5YR 5/6) extremely gravelly coarse sandy loam, strong brown (7.5YR 4/6) moist; massive; weathered granite has retained the original shape and relative position of the altered minerals; fractures between mineral grains that are less than 1 inch apart; hard, firm, nonsticky and nonplastic; many very fine roots; common moderately thick clay films on mineral grains; 75 percent gravel; neutral; diffuse wavy boundary.

Ct2—32 to 60 inches; reddish yellow (7.5YR 6/6) extremely gravelly loamy coarse sand, strong brown (7.5YR 5/6) moist; massive; consolidated rock structure; weathered granite has retained the original shape and relative position of the altered minerals; fractures between mineral grains are 0.5 to 2.5 inches apart; hard, friable, nonsticky and nonplastic; common very fine roots; few moderately thick clay films on mineral grains; 80 percent gravel; neutral.

Range in Characteristics*Particle-size control section:* 6 to 12 percent clay*Depth to granite (lithic) contact:* 40 to 60 inches, and deeper in some pedons**A horizon***Hue:* 7.5YR or 10YR*Value:* 3 to 5 dry, 2 or 3 moist*Chroma:* 1 to 3*Texture:* gravelly coarse sandy loam and very gravelly coarse sandy loam**B or C horizon***Hue:* 7.5YR or 10YR*Value:* 4 to 6 dry, 3 to 5 moist*Chroma:* 3 to 6*Texture:* gravelly coarse sandy loam, very gravelly coarse sandy loam, extremely gravelly coarse sandy loam, or extremely gravelly loamy coarse sand

Palon Series

Map units: 71, 72

Depth class: very deep

Drainage class: well drained

Landform: mountain slopes

Parent material: slope alluvium and colluvium derived mainly of rhyolite

Elevation: 8,500 to 9,500 feet (2,591 to 2,896 meters)

Slope: 15 to 65 percent

Climatic data:

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Taxonomic class: Loamy-skeletal, mixed Psammentic Eutroboralfs

Typical Pedon

Palon very cobbly sandy loam; 35 to 65 percent slopes, map unit 72; Sandoval County; Valle San Antonio Quadrangle; about 5 miles north of La Cueva on the south side of Cerro Seco, Baca Location No. 1; NAD 83, UTM 13—03 58 417 E—39 78 037 N.

Oi—0 to 2 inches; leaves, needles, twigs, and bark.

A1—2 to 4 inches; dark gray (10YR 4/3) very cobbly sandy loam, very dark gray (10YR 3/1) moist; moderate fine and medium granular structure; soft, very friable, slightly sticky and nonplastic; many fine and very fine roots and common medium roots; 10 percent stones, 30 percent cobbles, and 5 percent gravel; neutral; abrupt smooth boundary.

A2—4 to 10 inches; light brownish gray (10YR 6/2) extremely cobbly sandy loam, dark grayish brown (10YR 4/2) moist; moderate fine and medium granular structure; soft, very friable, slightly sticky and nonplastic; many fine and very fine roots and common medium roots; 20 percent stones, 40 percent cobbles, and 10 percent gravel; neutral; clear wavy boundary.

E—10 to 32 inches; light gray (10YR 7/2) extremely cobbly sandy loam, brown (10YR 5/3) moist; weak fine granular structure; soft, very friable, slightly sticky and nonplastic; many medium, common fine, and few coarse roots; 20 percent stones, 45 percent cobbles, and 5 percent gravel; neutral; abrupt wavy boundary.

Bt1—32 to 53 inches; pink (7.5YR 7/4) very cobbly sandy loam, brown (7.5YR 5/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; (lamellae are 1/4 to 1 inch thick; total thickness of lamellae is 6 inches or more; light brown (7.5YR 6/4) sandy loam, brown (7.5YR 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; clay bridging sand grains;) few fine and medium roots; 15 percent stones, 35 percent cobbles, and 5 percent gravel; neutral; gradual wavy boundary.

Bt2—53 to 60 inches; pink (7.5YR 7/4) very cobbly sandy loam, brown (7.5YR 5/4) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; (lamellae are 1/4 to 1 inch thick; total thickness is 6 inches or more; light brown (7.5YR 6/4) sandy clay loam, brown (7.5YR 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; clay bridging sand grains;) few fine roots; 10 percent stones, 30 percent cobbles, and 5 percent gravel; neutral.

Range in Characteristics

Particle-size control section: 10 to 25 percent clay

A horizon

Value: 4 to 6 dry, 2 to 4 moist

Chroma: 1 to 3

Texture: cobbly sandy loam, very cobbly sandy loam, or extremely cobbly sandy loam

E horizon

Hue: 7.5YR or 10YR

Value: 6 to 8 dry, 4 to 7 moist

Chroma: 2 to 6

Texture: very cobbly sandy loam or extremely cobbly sandy loam

Bt horizon

Hue: 7.5YR or 10YR

Value: 4 to 7 dry, 3 to 5 moist

Chroma: 2 to 6

Texture: very cobbly sandy loam or extremely cobbly sandy loam

Pastura Series

Map unit: 262

Depth class: very shallow to shallow

Drainage class: well drained

Landform: sideslopes of hills and mesas

Parent material: residuum derived from limestone

Elevation: 5,400 to 5,800 feet (1,646 to 1,768 meters)

Slope: 1 to 4 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 140 to 150 days

Taxonomic class: Loamy, mixed, mesic, shallow Ustollic Paleorthids

Typical Pedon

Pastura loam, in an area of mapping unit 262, Pastura loam, 1 to 4 percent slopes; Sandoval County; San Felipe Mesa Quadrangle; about 4 miles northwest of Placitas and 100 feet east and 2,640 feet south of the northwest corner of sec. 20, T. 13 N., R. 1 W. NAD 83, UTM 13—03 20 663 E—39 12 515 N.

A—0 to 3 inches; light yellowish brown (10YR 6/4) loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; common fine and very fine roots; moderately alkaline; abrupt smooth boundary.

Bw—3 to 10 inches; light yellowish brown (10YR 6/4) gravelly loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, sticky and plastic; common fine and very fine roots; 15 percent gravel; moderately alkaline; clear smooth boundary.

Bk—10 to 14 inches; very pale brown (10YR 7/4) gravelly loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; slightly hard, friable, sticky and plastic; few fine and very fine roots; 15 percent gravel; moderately alkaline; abrupt wavy boundary.

Bkm—14 inches; indurated petrocalcic broken into plates 3 to 12 inches horizontally and 2 to 4 inches vertically.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay

Depth to petrocalcic horizon: 5 to 20 inches

A horizon

Hue: 5YR to 10YR

Value: 4 to 7 dry, 3 to 5 moist

Chroma: 2 to 6

Bw horizon (or Bk horizon where present)

Hue: 5YR to 10YR

Value: 4 to 7 dry, 4 to 6 moist

Chroma: 2 to 6

Note: A Bkm horizon, which consists of a series of strongly cemented to indurated petrocalcic horizons, may be present beneath the uppermost-indurated horizon. These layers range in thickness from 6 to 36 inches separated by gravelly and cobbly soil material.

Pavo Series

Map unit: 74

Depth class: very deep

Drainage class: well drained

Landform: mountain slopes

Parent material: colluvium derived mainly from tuff and pumice

Elevation: 8,600 to 10,000 feet (2,621 to 3,048 meters)

Slope: 5 to 20 percent

Climatic data:

Mean annual precipitation: 25 to 30 inches (635 to 762 millimeters)

Mean annual air temperature: 38 to 42 degrees F. (3.3 to 5.6 degrees C.)

Frost-free period: 45 to 60 days

Taxonomic class: Fine-loamy, mixed Cryic Paleborolls

Typical Pedon

Pavo loam, in an area of mapping unit 74, Origo-Pavo association, 5 to 35 percent slopes; Sandoval County; Valle San Antonio Quadrangle; about 1 mile south of hot springs in the San Antonio Valley, Baca Location No. 1; unsectionized; NAD 83, UTM 13—03 58 992 E—39 80 935 N.

A1—0 to 9 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; weak medium granular structure; soft, very friable, slightly sticky and slightly plastic; common fine and very fine roots; slightly acid; clear wavy boundary.

A2—9 to 12 inches; grayish brown (10YR 5/2) sandy loam, very dark grayish brown (10YR 3/2) moist; weak coarse subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; 5 percent cobbles and 5 percent gravel; neutral; clear wavy boundary.

E—12 to 25 inches; very pale brown (10YR 7/3) sandy loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few fine roots; 10 percent gravel; neutral; clear wavy boundary.

E/Bt1—25 to 35 inches; very pale brown (10YR 7/3) sandy loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; (lamellae are .4 to .7 inch thick and total 1.5 inches; brown (7.5YR 5/4) sandy clay loam, dark brown (7.5YR 4/4) moist; slightly hard, friable, slightly

sticky and slightly plastic; clay films on sand grains and clay bridges between grains in lamellae;) 5 percent gravel; neutral; clear wavy boundary.

E/Bt2—35 to 45 inches; very pale brown (10YR 7/3) fine sandy loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and nonplastic; (lamellae are about .5 inch thick and total about 5 inches yellowish brown (10YR 5/4) sandy clay loam, brown (10YR 4/3) moist; hard, friable, slightly sticky and slightly plastic; clay films on sand grains and clay bridges between grains in lamellae;) 5 percent gravel; neutral; clear smooth boundary.

2Bt1—45 to 50 inches; brown (7.5YR 5/4) gravelly clay loam, dark brown (7.5YR 4/4) moist; weak fine subangular blocky structure; hard, friable, sticky and plastic; thick continuous clay films on coarse fragments; 30 percent gravel; slightly acid; clear smooth boundary.

3Bt2—50 to 60 inches; very pale brown (10YR 7/4) sandy loam, dark yellowish brown (10YR 4/4) moist; weak coarse subangular blocky structure; hard, friable, slightly sticky and slightly plastic; clay films on sand grains and clay bridges between grains; 9 percent cobbles and 5 percent gravel; neutral.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay

Argillic horizon: greater than 24 inches deep and composed mainly of lamellae thicker than 1 cm

A horizon

Value: 4 or 5 dry, 2 or 3 moist

Chroma: 2 or 3

Texture: loam or sandy loam

E horizon

Hue: 7.5YR or 10YR

Value: 5 to 7 dry, 4 or 5 moist

Chroma: 3 or 4

Texture: sandy loam or fine sandy loam

Bt horizon

Hue: 5YR to 10YR

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

Texture: sandy loam, fine sandy loam, or sandy clay loam

2 and 3Bt horizons

Hue: 5YR to 10YR

Value: 5 to 7 dry, 4 or 5 moist

Chroma: 3 or 4

Texture: gravelly clay loam or sandy loam

Penistaja Series

Map units: 68, 207, 240

Depth class: very deep

Drainage class: well drained

Landform: alluvial fans, bajadas, cuestras, hills, mesas, and plateaus

Parent material: eolian material and fan alluvium derived from sandstone and shale

Elevation: 5,400 to 6,400 feet (1,646 to 1,951 meters)

Slope: 1 to 7 percent

*Climatic data:**Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 52 to 54 degrees F. (11.1 to 12.2 degrees C.)*Frost-free period:* 120 to 140 days*Taxonomic class:* Fine-loamy, mixed, mesic Ustollic Haplargids**Typical Pedon**

Penistaja loamy fine sand, in an area of mapping unit 68, Penistaja-Querencia complex, 2 to 7 percent slopes; Sandoval County; about 4 miles east of Marquez; 700 feet north and 2,100 feet west of the southeast corner of sec. 24, T. 12 N., R. 2 W.

A—0 to 2 inches; light yellowish brown (10YR 6/4) loamy fine sand, yellowish brown (10YR 5/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; few very fine roots; slightly alkaline; abrupt smooth boundary.

Bt—2 to 15 inches; strong brown (7.5YR 5/6) sandy clay loam, strong brown (7.5YR 4/6) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, sticky and plastic; few very fine and fine roots; common moderately thick clay films on faces of peds; slightly alkaline; clear smooth boundary.

Btk—15 to 27 inches; brown (7.5YR 5/4) sandy clay loam, dark brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; few very fine and fine roots; few thin clay films on faces of peds; slightly effervescent; slightly alkaline; clear smooth boundary.

Bk—27 to 38 inches; pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; massive; hard, firm, sticky and plastic; few fine roots; slightly effervescent; few fine calcium carbonate accumulations; moderately alkaline; gradual smooth boundary.

C—38 to 60 inches; light yellowish brown (10YR 6/4) sandy clay loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, sticky and plastic; slightly effervescent; slightly alkaline.

Range in Characteristics*Particle-size control section:* 20 to 35 percent clay**A horizon***Hue:* 5YR to 10YR*Value:* 4 to 6 dry, 3 to 5 moist*Chroma:* 2 to 6*Texture:* loamy fine sand, fine sandy loam, and very fine sandy loam**Bt horizon***Hue:* 5YR or 7.5YR*Value:* 4 to 6 dry, 3 to 5 moist*Chroma:* 3 to 6*Texture:* sandy clay loam or clay loam**Bk and C horizons***Hue:* 5YR to 10YR*Value:* 4 to 8 dry, 3 to 7 moist*Chroma:* 3 to 6*Texture:* loam, fine sandy loam, loam, or sandy clay loam***Peralta Series****Map units:* 433, 434, 437, 835, 842*Depth class:* very deep*Drainage class:* somewhat poorly drained

Landform: flood plains

Parent material: stream alluvium derived from mixed sources

Elevation: 5,000 to 5,500 feet (1,524 to 1,676 meters)

Slope: 0 to 3 percent

Climatic data:

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Taxonomic class: Coarse-loamy, mixed, calcareous, mesic Typic Ustifluvents

Typical Pedon

Peralta loam, in an area of mapping unit 434, Peralta loam, 1 to 3 percent slopes; Sandoval County; Bernalillo Quadrangle; about 1.5 miles northwest of the Sandia Pueblo; 300 feet south and 1,980 feet east of the northwest corner of sec. 13, T. 12 N., R. 3 E. NAD 83, UTM 13—03 56 360 E—39 04 486 N.

- Ap—0 to 10 inches; brown (10YR 5/3) loam, dark brown (10YR 4/3) moist; massive; hard, firm, sticky and slightly plastic; many fine and very fine roots; strongly effervescent; slightly alkaline; abrupt smooth boundary.
- C1—10 to 16 inches; brown (7.5YR 5/4) very fine sandy loam, dark brown (7.5YR 3/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; common fine roots; strongly effervescent; moderately alkaline; abrupt smooth boundary.
- C2—16 to 20 inches; brown (7.5YR 4/4) clay loam, dark brown (7.5YR 3/4) moist; few fine faint brown (10YR 5/3) and few fine distinct brown (7.5YR 4/6) mottles; massive; very hard, firm, sticky and plastic; very fine roots; violently effervescent; moderately alkaline, abrupt smooth boundary.
- C3—20 to 28 inches; light yellowish brown (10YR 6/4) fine sandy loam, dark yellowish brown (10YR 4/4) moist; few fine and prominent strong brown (7.5YR 5/6) mottles; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; strongly effervescent, moderately alkaline; clear smooth boundary.
- C4—28 to 40 inches; pale brown (10YR 6/3) loamy sand, dark yellowish brown (10YR 4/4) moist; massive; loose, nonsticky and nonplastic; few very fine roots; strongly effervescent; moderately alkaline; abrupt smooth boundary.
- C5—40 to 45 inches; brown (7.5YR 5/2) silt loam, dark brown (7.5YR 3/2) moist; common fine distinct yellowish red (5YR 4/6) mottles; massive; hard, firm, sticky and slightly plastic; violently effervescent; moderately alkaline; abrupt smooth boundary.
- C6—45 to 60 inches; yellowish brown (10YR 5/4) loamy fine sand, dark yellowish brown (10YR 3/4) moist; single grain; loose, nonsticky and nonplastic; strongly effervescent; slightly alkaline.

Range in Characteristics

Particle-size control section: less than 18 percent clay

Depth to redoximorphic features: 12 to 30 inches

A horizon

Value: 5 or 6 dry, 3 to 5 moist

Chroma: 3 or 4

Texture: loam or clay loam

C horizon*Hue:* 7.5YR or 10YR*Value:* 3 to 7 dry, 3 to 5 moist*Chroma:* 2 to 4*Texture:* stratified silt loam, clay loam, very fine sandy loam, coarse sand, loam, sandy clay loam, fine sandy loam, sandy loam, loamy fine sand, and loamy sand*Salinity:* EC of 4 to 16***Pinavetes Series****Map units:* 120, 130, 213, 250, 420*Depth class:* very deep*Drainage class:* excessively drained*Landform:* dunes and valley sides*Parent material:* eolian sands derived from sandstone*Elevation:* 5,200 to 6,100 feet (1,585 to 1,859 meters)*Slope:* 0 to 35 percent*Climatic data:**Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 52 to 54 degrees F. (11.1 to 12.2 degrees C.)*Frost-free period:* 120 to 140 days*Taxonomic class:* Mixed, mesic Ustic Torripsamments**Typical Pedon**

Pinavetes loamy sand, in an area of mapping unit 120, Pinavetes loamy sand, 3 to 5 percent slopes; Sandoval County; Bernalillo NM Quadrangle; about 5 miles southeast of Zia Pueblo; 1,100 feet south and 1,525 feet east of the northwest corner of section 24, T. 14 N., R. 2 E. NAD 83, UTM 13—03 47 076 E—39 22 110 N.

A—0 to 10 inches; light yellowish brown (10YR 6/4) loamy sand, yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; many very fine roots; slightly effervescent; moderately alkaline; clear smooth boundary.

C1—10 to 35 inches; light yellowish brown (10YR 6/4) sand, yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; strongly effervescent; strongly alkaline; clear smooth boundary.

C2—35 to 60 inches; light yellowish brown (10YR 6/4) sand, yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; 10 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics**A horizon***Value:* 4 to 6 dry, 3 to 5 moist*Chroma:* 3 or 4*Texture:* sand, loamy sand, or loamy fine sand**C horizon***Value:* 5 or 6 dry, 4 or 5 moist*Chroma:* 3 to 6*Texture:* sand, fine sand, or loamy sand

Pinitos Series

Map unit: 206

Depth class: very deep

Drainage class: well drained

Landform: dipslopes of cuestras, hills, mesas, and fan terraces

Parent material: fan alluvium derived from sandstone and shale

Elevation: 7,000 to 7,600 feet (2,134 to 2,316 meters)

Slope: 1 to 15 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 49 to 51 degrees F. (9.5 to 10.5 degrees C.)

Frost-free period: 100 to 120 days

Taxonomic class: Fine-loamy, mixed, mesic Aridic Haplustalfs

Typical Pedon

Pinitos loam, in an area of mapping unit 206, Pinitos loam, 1 to 15 percent slopes; Sandoval County; Regina Quadrangle; 1,500 feet south and 1,300 feet east of the northwest corner of sec. 33, T. 23 N., R. 1 W. NAD 83, UTM 13—03 24 475 E—40 05 845 N.

- A—0 to 4 inches; yellowish brown (10YR 5/4) loam, dark brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, friable, sticky and plastic; many very fine and common fine roots; many very fine and fine pores; neutral; clear smooth boundary.
- Bt1—4 to 10 inches; brown (7.5YR 4/4) clay loam, dark brown (10YR 3/4) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; common very fine and fine roots; few medium pores; many thick clay films on faces of peds; neutral; clear smooth boundary.
- Bt2—10 to 27 inches; strong brown (7.5YR 5/6) clay loam, dark brown (7.5YR 4/4) moist; moderate medium and coarse subangular blocky structure; hard, firm, sticky and plastic; few very fine and fine roots; common and medium moderately thick clay films on faces of peds; neutral; clear smooth boundary.
- Btk—27 to 39 inches; strong brown (7.5YR 5/6) clay loam, dark brown (7.5YR 4/4) moist; moderate coarse subangular blocky structure; hard, firm, sticky and plastic; few fine and medium roots; many very fine and fine pores; few fine clay films on faces of peds; slightly effervescent; few fine accumulations of calcium carbonate; slightly alkaline; gradual smooth boundary.
- C—39 to 60 inches; strong brown (7.5YR 5/6) clay loam, dark brown (7.5YR 4/4) moist; massive; hard, firm, sticky and plastic; few fine and medium roots; slightly effervescent; slightly alkaline.

Range in Characteristics

Particle-size control section: 20 to 35 percent clay

A Horizon

Hue: 7.5YR or 10YR

Value: 5 or 6 dry, 3 or 4 moist

Chroma: 3 or 4 moist

Bt Horizon

Hue: 7.5YR or 10YR

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 4 to 6 dry

Bk or C Horizons*Hue:* 7.5YR or 10YR*Value:* 4 to 6 dry, 3 to 5 moist*Chroma:* 4 to 6***Placitas Series****Map unit:* 63*Depth class:* moderately deep*Drainage class:* well drained*Landform:* fan terraces*Parent material:* fan alluvium from conglomerate*Elevation:* 5,700 to 6,300 feet (1,737 to 1,920 meters)*Slope:* 8 to 40 percent*Climatic data:**Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 52 to 54 degrees F. (11.1 to 12.2 degrees C.)*Frost-free period:* 120 to 140 days*Taxonomic class:* Loamy-skeletal, mixed, mesic Ustollic Calciorthids**Typical Pedon**

Placitas gravelly loam, in an area of mapping unit 63, Placitas gravelly loam, 8 to 40 percent slopes; Sandoval County; Placitas Quadrangle; about 2 miles northeast of Placitas; 400 feet north and 200 feet west of the southeast corner of sec. 21, T. 13 N., R. 5 E. NAD 83, UTM 13—03 71 988 E—39 10 875N.

A—0 to 5 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; weak fine and medium granular structure; soft, very friable, slightly sticky and slightly plastic; many fine and few very fine roots; 30 percent gravel; strongly effervescent; moderately alkaline; clear smooth boundary.

Bw—5 to 10 inches; very pale brown (10YR 7/4) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few fine and very fine roots; 40 percent gravel; violently effervescent; moderately alkaline; clear smooth boundary.

Bk—10 to 27 inches; very pale brown (10YR 7/3) very gravelly sandy loam, brown (10YR 5/3) moist; massive; soft, very friable, slightly sticky and slightly plastic; few fine and very fine roots; 55 percent gravel; violently effervescent; many seams and filaments of calcium carbonate; moderately alkaline; clear smooth boundary.

R—27 inches; conglomerate.

Range in Characteristics*Particle-size control section:* 10 to 18 percent clay*Depth to lithic contact:* 20 to 40 inches**A horizon***Hue:* 10YR to 5YR*Value:* 4 or 5 moist*Chroma:* 2 to 4**B horizon***Hue:* 7.5YR or 10YR*Value:* 6 or 7 dry, 4 or 5 moist*Chroma:* 3 or 4

Poley Series

Map units: 67

Depth class: very deep

Drainage class: well drained

Landform: sideslopes of fan terraces

Parent material: colluvium derived from shale and sandstone

Elevation: 6,000 to 7,000 feet (1,829 to 2,134 meters)

Slope: 3 to 30 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Fine, mixed, mesic Ustollic Haplargids

Typical Pedon

Poley very cobbly loam in an area of mapping unit 67, Sandoval-Poley complex, 3 to 30 percent slopes; Sandoval County; Cerro Tinaja Quadrangle; about 1 mile northeast of Cerro de Nuestra Senora; NAD 83, UTM 13—03 03 752 E—39 19 661 N.

A—0 to 3 inches; brown (7.5YR 5/4) very cobbly loam, dark brown (7.5YR 4/4) moist; weak thin platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; 25 percent cobbles and 30 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

Bt1—3 to 12 inches; brown (7.5YR 5/4) clay loam, dark brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard friable, sticky and plastic; many very fine roots; few very fine tubular pores; few fine clay films on faces of peds; 10 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

Bt2—12 to 17 inches; light brown (7.5YR 6/4) clay loam, brown (7.5YR 5/4) moist; moderate medium subangular blocky structure; slightly hard, friable, sticky and plastic; common very fine roots; few very fine tubular pores; common thin, faint clay skins on faces of peds; slightly effervescent; slightly alkaline; clear smooth boundary.

Btk—17 to 21 inches; light brown (7.5YR 6/4) clay loam, brown (7.5YR 5/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, sticky and plastic; few very fine roots; few very fine tubular pores; few thin faint clay skins on faces of peds; 10 percent gravel; violently effervescent; with common medium irregularly shaped seams and filaments of segregated calcium carbonate; moderately alkaline; gradual smooth boundary.

Bk1—21 to 40 inches; pink (7.5YR 7/4) clay loam, light brown (7.5YR 6/4) moist; weak fine subangular blocky structure; slightly hard, very friable, sticky and plastic; few very fine roots; few very fine tubular pores; 2 percent cobbles and 10 percent gravel; violently effervescent; many fine irregularly shaped filaments of segregated calcium carbonate; moderately alkaline; gradual smooth boundary.

Bk2—40 to 60 inches; pale brown (10YR 6/3) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; loose, nonsticky and nonplastic; few very fine roots; 40 percent gravel; violently effervescent; many fine irregularly shaped filaments of segregated calcium carbonate; slightly alkaline.

Range in Characteristics

Particle-size control section: 30 to 55 percent clay

Depth to calcic horizon: 20 to 40 inches

A horizon*Hue:* 5YR, 7.5YR*Value:* 3 to 6 dry, 3 to 5 moist*Chroma:* 4 to 6 dry, 3 to 5 moist**Bt horizon***Hue:* 2.5YR, 5YR, 7.5YR*Value:* 4, 5 or 6 dry, 3, 4 or 5 moist*Chroma:* 3 to 8, dry or moist**Bk horizon***Hue:* 5YR, 7.5YR, 10YR*Value:* 5 to 8 dry, 4 to 8 moist*Chroma:* 1 to 6, dry or moist***Prieta Series****Map units:* 2, 16*Depth class:* shallow*Drainage class:* well drained*Landform:* lava flows and mesas*Parent material:* eolian material and slope alluvium derived from basalt*Elevation:* 5,600 to 7,300 feet (1,707 to 2,225 meters)*Slope:* 3 to 15 percent*Climatic data:**Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 52 to 54 degrees F. (11.1 to 12.2 degrees C.)*Frost-free period:* 120 to 140 days*Taxonomic class:* Clayey-skeletal, mixed, mesic Lithic Ustollic Haplargids**Typical Pedon**

Prieta very stony loam, in an area of mapping unit 2, Clovis-Prieta-Silver association, 3 to 15 percent slopes; Sandoval County; Casa Salazar Quadrangle; on Prieta Mesa, 580 feet east and 2,600 feet north of the southwest corner of sec. 15, T. 14 N., R. 2 W. NAD 83, UTM 13—03 14 613 E—39 23 855 N.

A—0 to 3 inches; brown (10YR 5/3) very stony loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many fine and very fine roots; 40 percent stones and 10 percent gravel; neutral; clear smooth boundary.

Bt1—3 to 10 inches; brown (7.5YR 5/4) very stony clay loam, dark brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; hard, firm, very sticky and very plastic; common fine and very fine roots; thin continuous clay films on faces of peds; 40 percent stones and 10 percent gravel; slightly alkaline; gradual smooth boundary.

Bt2—10 to 14 inches; brown (7.5YR 5/4) very stony clay loam, dark brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; common fine and very fine roots; thin continuous clay films on faces of peds; 25 percent stones and 10 percent gravel; moderately alkaline; clear smooth boundary.

Bk—14 to 19 inches; very pale brown (10YR 7/3) very stony clay loam, brown (10YR 5/3) moist; massive; slightly hard, friable, sticky and plastic; few fine roots; 40 percent stones and 10 percent gravel; common fine filaments of calcium carbonate; moderately alkaline; abrupt smooth boundary.

R—19 inches; basalt.

Range in Characteristics

Particle-size control section: 35 to 50 percent clay

Depth to basalt: 10 to 20 inches

A horizon

Hue: 10YR or 7.5YR

Value: 4 to 6 dry, 3 or 4 moist

Chroma: 2 to 4

Texture: very stony loam or stony silt loam

Bt horizon

Hue: 10YR or 7.5YR

Value: 4 or 6 dry, 3 or 5 moist

Chroma: 2 to 4

Bk horizon

Hue: 10YR or 7.5YR

Value: 4 to 7 dry, 3 or 6 moist

Chroma: 2 to 4

Querencia Series

Map units: 13, 68, 231, 234

Depth class: very deep

Drainage class: well drained

Landform: alluvial fans, stream terraces, and valley sides

Parent material: fan alluvium and colluvium derived from sandstone and shale

Elevation: 5,700 to 6,900 feet (1,737 to 2,103 meters)

Slope: 1 to 8 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Fine-loamy, mixed, mesic Ustollic Camborthids

Typical Pedon

Querencia sandy clay loam, in an area of mapping unit 13, Sandoval-Querencia association, 2 to 7 percent slopes; Sandoval County; Sky Village NW Quadrangle; about 3/4 mile southeast of Trujillo Tank, Alamo Ranch; 1,100 feet south and 1,500 feet west of the northeast corner of sec. 4, T. 13 N., R. 1 W. NAD 83, UTM 13—03 23 504 E—39 17 713 N.

A—0 to 4 inches; light brownish gray (2.5Y 6/2) sandy clay loam, dark grayish brown (2.5Y 4/2) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; common coarse, many fine and very fine roots; slightly effervescent; moderately alkaline; abrupt smooth boundary.

Bw1—4 to 12 inches; light yellowish brown (2.5Y 6/4) clay loam, olive brown (2.5Y 4/4) moist; weak fine subangular blocky structure; hard, firm, slightly sticky and slightly plastic; many fine and very fine roots; slightly effervescent; moderately alkaline; clear smooth boundary.

Bw2—12 to 24 inches; pale yellow (2.5Y 7/4) loam, light olive brown (2.5Y 5/4) moist; weak medium subangular blocky structure; hard, firm, slightly sticky and slightly plastic; many fine and very fine roots; slightly effervescent; moderately alkaline; gradual smooth boundary.

Bk—24 to 60 inches; pale yellow (2.5Y 7/4) loam, light olive brown (2.5Y 5/4) moist; massive; hard, firm, slightly sticky and slightly plastic; few fine and very fine roots; slightly effervescent; calcium carbonate as few fine irregular masses; moderately alkaline; gradual smooth boundary.

Range in Characteristics

Calcium carbonate equivalent: less than 15 percent, calcareous in all parts

Content of rock fragments: 0 to 10 percent gravel

Reaction: slightly alkaline to moderately alkaline

A horizon

Hue: 2.5Y or 10YR;

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 to 4

Texture: fine sandy loam, loam, or sandy clay loam

Bw horizon

Hue: 2.5Y or 10YR;

Value: 4 to 7 dry, 4 or 5 moist

Chroma: 2 to 6

Texture: loam, sandy clay loam, or clay

Bk horizon

Hue: 2.5Y or 10YR

Value: 4 to 7 dry, 4 or 5 moist

Chroma: 2 to 6

Texture: fine sandy loam and loam

Redondo Series

Map units: 85, 86, 87

Depth class: very deep

Drainage class: well drained

Landform: mountain slopes

Parent material: colluvium derived from tuff

Elevation: 8,700 to 11,000 feet (2,652 to 3,353 meters)

Slope: 15 to 80 percent

Climatic data:

Mean annual precipitation: 25 to 30 inches (635 to 762 millimeters)

Mean annual air temperature: 38 to 42 degrees F. (3.3 to 5.6 degrees C.)

Frost-free period: 45 to 60 days

Taxonomic class: Loamy-skeletal, mixed Typic Cryoboralfs

Typical Pedon

Redondo coarse sandy loam, in an area of mapping unit 85, Redondo coarse sandy loam; 15 to 35 percent slopes; Sandoval County; Valle San Antonio Quadrangle; about 3 miles northwest of Baca Location No. 1 Headquarters; unsectionized; NAD 83, UTM 13—03 63 260 E—39 72 828 N.

A—0 to 2 inches; grayish brown (10YR 5/2) coarse sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and few medium roots; slightly acid; clear smooth boundary.

- E1—2 to 7 inches; light brownish gray (10YR 6/2) coarse sandy loam, dark grayish brown (10YR 4/2) moist; moderate medium platy and weak fine subangular blocky structure; slightly hard, friable, slightly sticky and plastic; common very fine and few medium roots; few thin silt coatings on faces of peds; slightly acid; clear smooth boundary.
- E2—7 to 15 inches; light gray (10YR 7/2) coarse sandy loam, brown (10YR 5/3) moist; weak medium platy and weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and few medium roots; very few very thin silt coating on faces of peds; 1 percent cobbles and 2 percent gravel; medium acid; clear wavy boundary.
- BE—15 to 22 inches; pink (7.5YR 7/4) coarse sandy loam, brown (7.5YR 5/4) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine and very fine roots; few thin silt coatings on faces of peds; 3 percent gravel; medium acid; clear wavy boundary.
- Bt1—22 to 29 inches; light gray (10YR 7/2) gravelly coarse sandy loam, brown (10YR 5/3) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; common moderately thick clay films on faces of peds; 25 percent gravel; medium acid; gradual wavy boundary.
- Bt2—29 to 38 inches; light brown (7.5YR 6/4) very gravelly coarse sandy loam, brown (7.5YR 4/4) moist; weak medium and coarse subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few fine medium and coarse roots; common moderately thick clay films on rock fragments and bridging sand grains; 5 percent stones, 10 percent cobbles and 30 percent gravel; medium acid; diffuse wavy boundary.
- Bt3—38 to 54 inches; light brown (7.5YR 6/4) extremely gravelly coarse sandy loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine and medium roots; common moderately thick clay films on rock fragments and bridging sand grains; 10 percent stones, 10 percent cobbles, and 60 percent gravel; medium acid; diffuse wavy boundary.
- Bt4—54 to 60 inches; light brown (7.5YR 6/4) extremely cobbly coarse sandy loam, brown (7.5YR 4/4) moist; massive; hard, firm, slightly sticky and slightly plastic; few medium roots; few moderately thick clay films on rock fragments and bridging sand grains; 15 percent stones, 25 percent cobbles, and 50 percent gravel; medium acid; diffuse wavy boundary.

Range in Characteristics

Particle-size control section: 10 to 18 percent clay

A horizon

Hue: 7.5YR or 10YR

Value: 5 to 7 dry, 3 to 5 moist

Chroma: 2 or 3, dry or moist

Texture: cobbly coarse sandy loam, coarse sandy loam, and cobbly loam

E horizon

Hue: 7.5YR or 10YR

Value: 6 to 8 dry, 4 to 6 moist

Chroma: 1 to 4, dry or moist

Texture: coarse sandy loam, very cobbly coarse sandy loam, or extremely cobbly coarse sandy loam

B horizon

Hue: 7.5YR or 10YR

Value: 4 to 8 dry, 4 or 5 moist

Chroma: 2 to 4, dry or moist

Texture: gravelly coarse sandy loam, very gravelly coarse sandy loam, very cobbly coarse sandy loam, or extremely cobbly coarse sandy loam

Royosa Series

Map units: 312, 314, 321

Depth class: very deep

Drainage class: somewhat excessively drained and excessively drained

Landform: dunes

Parent material: eolian sands derived from sandstone

Elevation: 5,600 to 6,700 feet (1,707 to 2,042 meters)

Slope: 1 to 8 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Mixed, mesic Typic Ustipsamments

Typical Pedon

Royosa sand, in an area of mapping unit 312, Royosa sand, 1 to 8 percent slopes; Sandoval County; Jemez Pueblo Quadrangle; about 4 miles north of the Zia Pueblo; 2,550 feet east and 2,000 feet north of the southwest corner of sec. 32, T. 16 N., R. 3 E. NAD 83, UTM 13—03 50 811 E—39 37 468 N.

A—0 to 5 inches; very pale brown (10YR 7/3) sand, brown (10YR 5/3) moist; single grain; loose, nonsticky and nonplastic; slightly alkaline; clear smooth boundary.

C1—5 to 16 inches; brown (7.5YR 5/4) sand, brown (7.5YR 4/4) moist; single grain; loose, nonsticky and nonplastic; common medium and coarse roots; slightly alkaline; gradual smooth boundary.

C2—16 to 60 inches; brownish yellow (10YR 6/6) loamy sand, yellowish brown (10YR 5/6) moist; single grain; loose, nonsticky and nonplastic; slightly alkaline.

Range in Characteristics

Reaction: neutral to moderately alkaline

A horizon

Hue: 10YR to 5YR

Value: 5 to 7 dry, 3 to 5 moist

Chroma: 3 to 6

Texture: sand or fine sand

C horizon

Hue: 10YR to 5YR

Value: 4 to 7 dry, 3 to 6 moist

Chroma: 3 to 6

Texture: sand, fine sand, or loamy sand

Saido Series

Map unit: 110

Depth class: very deep

Drainage class: well drained

Landform: cuestras, fans, mesas, and knolls

Parent material: slope alluvium derived from silty gypsiferous material

Elevation: 5,300 to 6,000 feet (1,615 to 1,829 meters)

Slope: 5 to 40 percent

Climatic data:

Mean annual precipitation: 10 to 12 inches (254 to 305 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Coarse-silty, gypsic, mesic Typic Gypsiorthids

Typical Pedon

Saido silt loam, in an area of mapping unit 110, Rock outcrop-Saido complex, 5 to 40 percent slopes; Sandoval County; San Ysidro Quadrangle; on the gypsum mine haul road about 2 miles south of San Ysidro; 1,500 feet north and 1,800 feet east of the southwest corner of sec. 13, T. 15 N., R. 1 E. NAD 83, UTM 13—03 37 730 E—39 32 751 N.

A—0 to 5 inches; very pale brown (10YR 8/3) silt loam, pink (7.5YR 7/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; few fine and coarse roots; common fine interstitial pores; strongly effervescent; moderately alkaline; clear smooth boundary.

By1—5 to 9 inches; white (10YR 8/2) silt loam, very pale brown (10YR 7/3) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; few fine and coarse roots; common fine tubular pores; many medium masses of gypsum crystals; violently effervescent; moderately alkaline; clear smooth boundary.

By2—9 to 15 inches; white (10YR 8/2) silt loam, white (10YR 8/2) moist; massive; soft, very friable, nonsticky and nonplastic; many medium masses of gypsum crystals; violently effervescent; moderately alkaline; clear smooth boundary.

By3—15 to 25 inches; white (10YR 8/2) silt loam, white (10YR 8/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many medium masses of gypsum crystals; violently effervescent; moderately alkaline; clear smooth boundary.

C—25 to 60 inches; pink (7.5YR 8/4) loam, pink (7.5YR 7/4) moist; massive; soft, very friable, nonsticky and nonplastic; few medium masses of gypsum crystals; violently effervescent; moderately alkaline.

Range in Characteristics

Depth to gypsic horizon: 2 to 5 inches

A horizon

Hue: 5YR, 7.5YR, or 10YR

Value: 5 to 8 dry, 4 to 7 moist

Chroma: 3 or 4

B and C horizons

Hue: 7.5YR or 10YR

Value: 6 to 8 dry, 5 to 7 moist

Chroma: 1 to 4

San Mateo Series

Map units: 114, 170

Depth class: very deep

Drainage class: well drained

Landform: flood plains, alluvial fans, and valley sides

Parent material: stream alluvium from mixed sources

Elevation: 5,500 to 6,800 feet (1,676 to 2,073 meters)

Slope: 0 to 3 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Fine-loamy, mixed, calcareous, mesic Ustic Torrifluvents

Typical Pedon

San Mateo loam, in an area of mapping unit 170, San Mateo loam, 0 to 3 percent slopes; Sandoval County; San Ysidro Quadrangle; about 5 miles southwest of San Ysidro; 200 feet south and 1,500 feet east of the center of sec. 27, T. 15 N., R. 1 E. NAD 83, UTM 13—03 35 171 E—39 29 854 N.

- A—0 to 2 inches; pale brown (10YR 6/3) loam, brown (10YR 5/3) moist; weak fine granular structure; soft, very friable, nonsticky and slightly plastic; common medium and fine roots; strongly effervescent; moderately alkaline; clear smooth boundary.
- C1—2 to 10 inches; dark yellowish brown (10YR 4/4) clay loam, dark yellowish brown (10YR 3/4) moist; massive; soft, friable, slightly sticky and slightly plastic; common medium, fine and very fine roots; strongly effervescent; strongly alkaline; clear smooth boundary.
- C2—10 to 23 inches; light yellowish brown (10YR 6/4) clay loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, firm, sticky and plastic; common fine and very fine roots; few medium roots; strongly effervescent; strongly alkaline; clear smooth boundary.
- C3—23 to 32 inches; light yellowish brown (10YR 6/4) clay loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, firm, sticky and plastic; few fine and very fine roots; strongly effervescent; moderately alkaline; clear smooth boundary.
- C4—32 to 54 inches; yellowish brown (10YR 5/4) clay loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, firm, sticky and plastic; few very fine roots; strongly effervescent; moderately alkaline; clear smooth boundary.
- C5—54 to 60 inches; pale brown (10YR 6/3) clay loam, brown (10YR 5/3) moist; massive; slightly hard, firm, sticky and plastic; strongly effervescent; strongly alkaline.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay

A horizon

Hue: 10YR or 2.5Y

Value: 5 or 6 dry, 3 to 5 moist

Chroma: 2 to 6 dry and moist

Texture: sandy loam and loam

C horizon*Hue:* 10YR or 2.5Y*Value:* 5 or 6 dry; 3 to 5, moist*Chroma:* 2 to 6*Texture:* stratified sandy loam, loam, silty clay loam, and clay loam*Sodicity:* SAR of 5 to 30***Sandoval Series****Map units:* 13, 15, 67, 230, 235*Depth class:* shallow*Drainage class:* well drained*Landform:* hills and ridges*Parent material:* slope alluvium derived from shale*Elevation:* 5,800 to 7,000 feet (1,768 to 2,134 meters)*Slope:* 1 to 30 percent*Climatic data:**Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 52 to 54 degrees F. (11.1 to 12.2 degrees C.)*Frost-free period:* 120 to 140 days*Taxonomic class:* Loamy, mixed, calcareous, mesic, shallow Ustic Torriorthents**Typical Pedon**

Sandoval fine sandy loam, in an area of mapping unit 13, Sandoval-Querencia association, 2 to 7 percent slopes; Sandoval County; Sky Village NW Quadrangle; about 5 miles south of the Alamo Ranch headquarters; 1,100 feet south and 2,700 feet east of the northwest corner of sec. 4, T. 13 N., R. 1 W. NAD 83, UTM 13—03 23 157 E—39 17 735 N.

A1—0 to 2 inches; light yellowish brown (10YR 6/4) fine sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; common fine and very fine roots; slightly effervescent; strongly alkaline; abrupt smooth boundary.

A2—2 to 6 inches; light gray (2.5YR 7/2) clay loam, light olive brown (2.5YR 5/4) moist; weak fine subangular blocky structure; slightly hard, friable, sticky and plastic; common fine and very fine roots; slightly effervescent; moderately alkaline; clear smooth boundary.

C1—6 to 10 inches; light brownish gray (2.5YR 6/2) clay loam, grayish brown (2.5YR 5/2) moist; massive; hard, firm, sticky and plastic; common fine and very fine and few medium roots; slightly effervescent; moderately alkaline; clear smooth boundary.

C2—10 to 15 inches; light brownish gray (2.5YR 6/2) clay loam, dark grayish brown (2.5YR 4/2) moist; massive; hard, firm, sticky and plastic; few fine roots; slightly effervescent; moderately alkaline; clear smooth boundary.

Cr—15 inches; soft calcareous shale.

Range in Characteristics*Particle-size control section:* 18 to 35 percent clay*Content of gypsum:* 5 to 10 percent*Salinity:* EC of 2 to 4*Sodicity:* SAR of 8 to 13*Depth to paralithic contact:* 10 to 20 inches

A horizon*Hue:* 10YR or 2.5Y*Value:* 5 to 7 dry, 4 or 5 moist*Chroma:* 2 to 6*Texture:* loam, clay loam, and fine sandy loam**C horizon***Hue:* 2.5Y or 5Y*Value:* 5 to 7 dry, 4 or 5 moist*Chroma:* 2 to 4***Santa Fe Series****Map units:* 409, 419*Depth class:* very shallow to shallow*Drainage class:* well drained*Landform:* mountain slopes*Parent material:* slope alluvium and residuum derived from granite*Elevation:* 6,400 to 8,400 feet (1,951 to 2,560 meters)*Slope:* 15 to 70 percent*Climatic data:**Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 48 to 52 degrees F. (10 to 11.1 degrees C.)*Frost-free period:* 110 to 130 days*Taxonomic class:* Loamy-skeletal, mixed, mesic Lithic Argiustolls**Typical Pedon**

Santa Fe very gravelly sandy loam, in an area of mapping unit 409, Santa Fe very gravelly sandy loam, 15 to 40 percent slopes; Sandoval County; Gilman Quadrangle; about 8 miles west of the Jemez Pueblo; 1,300 feet north and 350 feet west of the SE corner of sec. 8, T. 16 N., R. 1 E. NAD 83, UTM 13—03 32 465 E—39 44 119 N

A—0 to 3 inches; dark reddish gray (5YR 4/2) very gravelly sandy loam, dark reddish brown (5YR 3/2) moist; moderate fine granular structure; soft, friable, nonsticky and nonplastic; many very fine roots; common very fine tubular pores; 2 percent stones, 3 percent cobbles and 40 percent gravel; neutral; clear smooth boundary.

Bt—3 to 8 inches; weak red (2.5YR 4/2) very gravelly sandy clay loam, dusky red (2.5YR 3/2) moist; strong fine angular block structure; slightly hard, firm, sticky and plastic, common very fine roots, many very fine tubular pores, 10 percent cobbles and 35 percent gravel; many thin clay films on faces of peds; neutral, clear smooth boundary.

2R—8 inches; granite.

Range in Characteristics*Particle-size control section:* 20 to 35 percent clay*Depth to bedrock:* 8 to 20 inches**A horizon***Hue:* 5YR to 10YR*Value:* 3 to 5 dry, 2 or 3 moist*Chroma:* 2 or 3*Texture:* gravelly sandy loam or extremely cobbly coarse sandy loam

Bt horizon*Hue:* 2.5YR to 7.5YR*Value:* 3 to 5 dry, 2 or 3 moist*Chroma:* 2 or 3***Sedgran Series****Map unit:* 201*Depth class:* very shallow to shallow*Drainage class:* excessively drained*Landform:* mountain slopes*Parent material:* colluvium derived from granite and sandstone*Elevation:* 5,800 to 8,000 feet (1,768 to 2,438 meters)*Slope:* 25 to 55 percent*Climatic data:**Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 52 to 54 degrees F. (11.1 to 12.2 degrees C.)*Frost-free period:* 120 to 140 days*Taxonomic class:* Sandy-skeletal, mixed, mesic Lithic Ustic Torriorthents**Typical Pedon**

Sedgran extremely gravelly loamy coarse sand, in an area of mapping unit 201, Rock outcrop-Sedgran association, 25 to 55 percent slopes; Sandoval County; Alameda Quadrangle; about 3 1/4 miles east of Interstate Highway 25 and 1/8 miles north of the Sandoval-Bernalillo county line on the Sandia Pueblo Indian Reservation; 1,300 feet east and 450 of north of the southwest corner of sec. 34, T. 12 N., R. 4 E. NAD 83, UTM 13—03 62 490 E—38 98 152 N.

A—0 to 4 inches; yellowish brown (10YR 5/4) extremely gravelly loamy coarse sand, dark yellowish brown (10YR 3/4) moist; moderate medium granular structure; loose, very friable, nonsticky and nonplastic; many fine roots; 20 percent cobbles and 45 percent gravel; neutral; clear wavy boundary.

C—4 to 13 inches; reddish yellow (7.5YR 6/6) and yellowish brown (7.5YR 5/4) very gravelly loamy coarse sand, brownish yellow (7.5YR 5/6) and dark yellowish brown (7.5YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few fine roots; 5 percent cobbles and 40 percent gravel; slightly alkaline; diffuse wavy boundary.

2R—13 inches; granite bedrock.

Range in Characteristics*Particle-size control section:* 5 to 10 percent clay*Depth to lithic contact:* 6 to 20 inches**A horizon***Hue:* 7.5YR or 10YR*Value:* 4 to 6 dry, 3 to 5 moist*Chroma:* 3 to 6**C horizon***Hue:* 7.5YR or 10YR*Value:* 4 to 6 dry, 3 to 5 moist*Chroma:* 4 to 6

Sedillo Series

Map units: 200, 208

Depth class: very deep

Drainage class: well drained

Landform: bajadas, fan terraces, and stream terraces

Parent material: gravelly fan alluvium derived from mixed sources

Elevation: 5,100 to 6,500 feet (1,554 to 1,981 meters)

Slope: 5 to 55 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Loamy-skeletal, mixed, mesic Ustollic Haplargids

Typical Pedon

Sedillo very gravelly fine sandy loam, in an area of mapping unit 208, Sedillo very gravelly fine sandy loam, 25 to 55 percent slopes; Sandoval County; San Felipe Pueblo Quadrangle; about one mile southeast of the San Felipe Pueblo, about 2000 feet south and 300 feet west of NE corner of sec. 29, T. 14 N., R. 5 E. NAD 83, UTM 13—03 70 512 E—39 19 951 N.

A—0 to 2 inches; brown (10YR 4/3) very gravelly fine sandy loam, dark brown (10YR 3/3) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; many very fine roots, 55 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

Bt—2 to 8 inches; brown (10YR 4/3) very gravelly sandy clay loam, dark yellowish brown (10YR 3/4) moist; moderate medium and fine subangular blocky structure; soft, friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; few thin clay films on faces of peds; 50 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.

Bk1—8 to 12 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; medium and fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; many very fine tubular pores; 50 percent gravel; slightly effervescent; few coatings on undersides of rock fragments of calcium carbonate; slightly alkaline; gradual smooth boundary.

Bk2—12 to 60 inches; very pale brown (10YR 8/3) extremely gravelly sandy loam, light yellowish brown (10YR 6/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine roots; many very fine tubular pores; 60 percent gravel; violently effervescent; undersides of rock fragments coated with calcium carbonate; slightly alkaline.

Range in Characteristics

Particle-size control section: 20 to 35 percent clay

A horizon

Hue: 5YR to 10YR

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 3 or 4

Texture: very cobbly sandy loam and very gravelly fine sandy loam

Bt horizon*Hue:* 10YR to 5YR*Value:* 4 to 6 dry, 3 to 5 moist*Chroma:* 3 to 6**Bk horizon***Hue:* 5YR to 10YR*Value:* 5 to 8 dry, 3 to 7 moist*Chroma:* 2 to 6*Texture:* extremely gravelly coarse sandy loam, very gravelly sandy loam, and extremely gravelly sandy loam**Sedmar Series***Map unit:* 146*Depth class:* very shallow to shallow*Drainage class:* excessively drained*Landform:* dipslopes of cuestas and ridges*Parent material:* slope alluvium and residuum derived from sandstone*Elevation:* 7,000 to 8,000 feet (2,134 to 2,438 meters)*Slope:* 1 to 15 percent*Climatic data:**Mean annual precipitation:* 20 to 25 inches (508 to 635 millimeters)*Mean annual air temperature:* 42 to 45 degrees F. (5.6 to 7.2 degrees C.)*Frost-free period:* 60 to 90 days*Taxonomic class:* Sandy, mixed, frigid Lithic Ustorthents**Typical Pedon**

Sedmar loamy sand, in an area of mapping unit 146, Sedmar loamy sand, 1 to 15 percent slopes; Sandoval County; Cuba Quadrangle; about 1 mile north of Cuba; 2,600 feet south and 200 feet west of the northeast corner of sec. 17, T. 21 N., R. 1 W. NAD 83, UTM 13—03 23 734 E—39 91 047 N.

A—0 to 3 inches; light yellowish brown (10YR 6/4) loamy sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; neutral; abrupt smooth boundary.

C1—3 to 13 inches; brownish yellow (10YR 6/6) and brown (10YR 5/3) sandy loam, brown (10YR 4/3) and yellowish brown (10YR 5/6) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few common distinct yellowish brown (10YR 5/8) iron stains; neutral; clear smooth boundary.

C2—13 to 18 inches; brownish yellow (10YR 6/6) loamy sand, brownish yellow (10YR 6/6) moist; single grain; loose, nonsticky and nonplastic; neutral; abrupt smooth boundary.

2R—18 inches; sandstone.

Range in Characteristics*Particle-size control section:* 5 to 15 percent clay*Depth to lithic contact:* 6 to 20 inches**A and C horizons***Value:* 5 to 7 dry, 4 to 6 moist*Chroma:* 3 to 6*Texture:* loamy sand stratified with layers of sandy loam

Sheppard Series

Map units: 145, 183, 191

Depth class: very deep

Drainage class: somewhat excessively drained

Landform: dunes, alluvial fans, benches, structural benches, terraces, and stream terraces

Parent material: eolian sands derived from sandstone

Elevation: 5,000 to 6,000 feet (1,524 to 1,829 meters)

Slope: 1 to 40 percent

Climatic data:

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Taxonomic class: Mixed, mesic Typic Torripsamments

Typical Pedon

Sheppard loamy fine sand, in an area of mapping unit 191, Sheppard loamy fine sand, 3 to 8 percent slopes; Sandoval County; Bernalillo Quadrangle; unsectionized; NAD 83, UTM 13—03 55 559 E—39 06 478 N.

A—0 to 3 inches; light brown (7.5YR 6/4) loamy fine sand, brown (7.5YR 4/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common fine and very fine roots; slightly effervescent; moderately alkaline; abrupt smooth boundary.

C1—3 to 27 inches; strong brown (7.5YR 5/6) loamy fine sand, brown (7.5YR 4/4) moist; single grain; loose, nonsticky and nonplastic; few fine and medium roots; slightly effervescent; moderately alkaline; clear smooth boundary.

C2—27 to 60 inches; pink (7.5YR 7/4) loamy fine sand, brown (7.5YR 5/4) moist; single grain; loose, nonsticky and nonplastic; strongly effervescent; moderately alkaline.

Range in Characteristics

Particle-size control section: 3 to 10 percent clay

A horizon

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

C horizon

Hue: 2.5YR to 7.5YR

Value: 5 to 7 (4 to 6 moist)

Chroma: 3 to 6

Texture: loamy fine sand, sand, or loamy sand

Silver Series

Map units: 1, 2

Depth class: very deep

Drainage class: well drained

Landform: mesas, fan terraces, hills, and plateaus

Parent material: eolian material and slope alluvium derived from shale and sandstone

Elevation: 5,600 to 7,300 feet (1,707 to 2,225 meters)

Slope: 1 to 8 percent

*Climatic data:**Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 52 to 54 degrees F. (11.1 to 12.2 degrees C.)*Frost-free period:* 120 to 140 days*Taxonomic class:* Fine, mixed, mesic Ustollic Haplargids**Typical Pedon**

Silver loam, in an area of mapping unit 1, Silver-Clovis loams, 1 to 7 percent slopes; Sandoval County; Casa Salazar Quadrangle; on Mesa Prieta; 1,300 feet north and 150 feet east of the center of sec. 9, T. 14 N., R. 2 W. NAD 83, UTM 13—03 13 700 E—39 25 879 N.

- A—0 to 4 inches; pale brown (10YR 6/3) loam, brown (10YR 4/3) moist; weak thick platy structure parting to moderate medium granular; slightly hard, friable, sticky and plastic; common fine and very fine roots; neutral; clear smooth boundary.
- Bt1—4 to 8 inches; light brown (7.5YR 6/4) silty clay loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, friable, sticky and plastic; common fine and very fine roots; few thin clay films on faces of peds; slightly alkaline; clear smooth boundary.
- Bt2—8 to 20 inches; brown (7.5YR 5/2) silty clay loam, brown (7.5YR 4/2) moist; moderate fine and medium subangular blocky structure; hard, firm, very sticky and very plastic; common fine and very fine roots; continuous thick clay films on faces of peds; slightly alkaline; gradual smooth boundary.
- Bt3—20 to 39 inches; brown (10YR 5/3) clay loam, dark brown (10YR 4/3) moist; moderate medium subangular blocky structure; hard, firm, very sticky and very plastic; few fine and very fine roots; many thick clay films on faces of peds; slightly alkaline; clear smooth boundary.
- C—39 to 60 inches; brown (7.5YR 5/4) clay loam, dark brown (7.5YR 4/4) moist; massive; hard, firm, very sticky and very plastic; slightly alkaline.

Range in Characteristics*Particle-size control section:* 35 to 50 percent clay**A horizon***Hue:* 7.5YR or 10YR*Value:* 4 to 6 dry, 3 to 5 moist*Chroma:* 2 to 4**Bt and Btk horizons***Hue:* 7.5YR or 10YR*Value:* 4 to 7 dry, 3 to 6 moist*Chroma:* 2 to 4*Texture:* clay loam or silty clay loam**Bk and C horizons (where present)***Hue:* 7.5YR or 10YR*Value:* 6 to 8 dry, 5 to 7 moist*Chroma:* 2 to 4*Texture:* clay loam and silty clay loam**Skyvillage Series***Map units:* 64, 190, 230*Depth class:* very shallow to shallow*Drainage class:* well drained

Landform: breaks, structural benches, dipslopes of cuestras, summits of mesas and hills, and ridges

Parent material: slope alluvium derived from sandstone

Elevation: 5,800 to 6,400 feet (1,768 to 1,951 meters)

Slope: 3 to 40 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Loamy, mixed, calcareous, mesic Lithic Ustic Torriorthents

Typical Pedon

Skyvillage fine sandy loam, in an area of mapping unit 190, Zia-Skyvillage-Rock outcrop complex, 5 to 40 percent slopes; Sandoval County; Sky Village NW Quadrangle; about 6 miles northeast of the Alamo Ranch headquarters; 700 feet north and 600 feet east of the center of sec. 22, T. 14 N., R. 1 W. NAD 83, UTM 13—03 25 078 E—39 22 260 N.

A—0 to 2 inches; pale yellow (2.5Y 7/4) fine sandy loam, light olive brown (2.5Y 5/4) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; few fine roots; slightly effervescent; moderately alkaline; abrupt smooth boundary.

C1—2 to 11 inches; light gray (2.5Y 7/2) fine sandy loam, light olive brown (2.5Y 5/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common fine and very fine roots; slightly effervescent; moderately alkaline; clear wavy boundary.

C2—11 to 16 inches; light gray (2.5Y 7/2) fine sandy loam, light olive brown (2.5Y 5/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few fine and very fine roots; 10 percent gravel; slightly effervescent; slightly alkaline.

2R—16 inches; sandstone.

Range in Characteristics

Particle-size control section: 10 to 27 percent clay

Depth to bedrock: 6 to 20 inches

A and C horizons

Hue: 2.5Y to 7.5YR

Value: 5 to 7 dry, 4 or 5 moist

Chroma: 2 to 6

Texture: sandy loam or fine sandy loam

Sparank Series

Map units: 236, 237

Depth class: very deep

Drainage class: well drained

Landform: stream terraces, alluvial fans, valley sides, and flood plains

Parent material: stream alluvium derived from sandstone and shale

Elevation: 5,500 to 6,400 feet (1,676 to 1,951 meters)

Slope: 0 to 3 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Fine, mixed, calcareous, mesic Ustic Torrfluvents

Typical Pedon

Sparank clay loam, in an area of mapping unit 236, Sparank clay loam, moderately saline, sodic, 0 to 1 percent slopes; Sandoval County; Holy Ghost Spring Quadrangle; about 3 miles northeast of San Luis; unsectionized; NAD 83, UTM 13—03 19 302 E—39 55 938 N.

- A—0 to 2 inches; brown (10YR 5/3) clay loam, dark brown (10YR 4/3) moist; moderate fine granular structure; slightly hard, friable, sticky and plastic; few fine roots; slightly effervescent; strongly alkaline; clear smooth boundary.
- C1—2 to 10 inches; brown (10YR 5/3) silty clay, brown (10YR 4/3) moist; massive; hard, firm, sticky and plastic; common fine roots; slightly effervescent; strongly alkaline; gradual smooth boundary.
- C2—10 to 24 inches; brown (10YR 4/3) silty clay, brown (10YR 4/3) moist; massive; hard, firm, sticky and plastic; common medium roots; slightly effervescent; moderately alkaline; abrupt smooth boundary.
- C3—24 to 40 inches; pale brown (10YR 6/3) silty clay loam with thin strata of silt loam, brown (10YR 5/3) moist; massive; hard, firm, slightly sticky and slightly plastic; strongly effervescent; moderately alkaline; abrupt smooth boundary.
- C4—40 to 44 inches; dark grayish brown (10YR 4/2) silty clay, dark grayish brown (10YR 4/2) moist; massive; hard, firm, sticky and plastic; slightly effervescent; moderately alkaline; abrupt smooth boundary.
- C5—44 to 60 inches; pale brown (10YR 6/3) silty clay, brown (10YR 5/3) moist; massive; hard, firm, sticky and plastic; slightly effervescent; strongly alkaline.

Range in Characteristics

Sodicity: SAR less than 13, typically

Salinity: EC of 4 to 8, typically

A horizon

Hue: 10YR to 5Y

Value: 4 to 6 moist, 3 to 6 dry

Chroma: 1 to 4

Texture: sandy clay loam, silt loam, clay loam, silty clay loam, silty clay, or clay

Reaction: moderately alkaline or strongly alkaline

C horizon

Hue: 10YR to 5Y

Value: 3 to 7 dry or moist

Chroma: 1 to 4

Texture: clay, silty clay, silty clay loam, or clay loam. Usually contains thin strata of silt loam or loamy sand.

Reaction: moderately alkaline to very strongly alkaline

Note: Some pedons have few to many fine prominent relict mottles of 5Y or 2.5Y 4/6 to 4/8 below 20 inches.

Sparham Series

Map units: 18, 24, 51, 102, 320

Depth class: very deep

Drainage class: well drained, somewhat poorly drained

Landform: alluvial fans, flood plains, and valley sides

Parent material: fan and stream alluvium derived from sandstone and shale

Elevation: 5,000 to 7,500 feet (1,524 to 2,286 meters)

Slope: 0 to 3 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 50 to 55 degrees F. (10.0 to 12.8 degrees C.)

Frost-free period: 110 to 160 days

Taxonomic class: Fine, mixed, calcareous, mesic Typic Ustifluvents

Typical Pedon

Sparham clay, in an area of mapping unit 102, Sparham clay loam, 1 to 3 percent slopes; Sandoval County; Cuba Quadrangle; about 1 mile northwest of Cuba; 1,500 feet south and 1,100 feet east of the northwest corner of sec. 20, T. 21 N., R. 1 W. NAD 83, UTM 13—03 22 490 E—39 89 805 N.

- A—0 to 7 inches; grayish brown (10YR 5/2) clay loam, dark grayish brown (10YR 4/2) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; many very fine and common fine roots; neutral; clear smooth boundary.
- C1—7 to 20 inches; light brownish gray (10YR 6/2) clay loam, dark gray (10YR 4/1) moist; common medium prominent strong brown (7.5YR 5/8) mottles; massive; very hard, very firm, very sticky and very plastic; common very fine roots; slightly effervescent; slightly alkaline; clear smooth boundary.
- C2—20 to 29 inches; pale brown (10YR 6/3) clay loam, brown (10YR 5/3) moist; common fine prominent strong brown (7.5YR 5/8) mottles; massive; very hard, very firm, very sticky and very plastic; few very fine roots; slightly effervescent; moderately alkaline; gradual smooth boundary.
- C3—29 to 47 inches; very pale brown (10YR 7/4) silty clay loam, yellowish brown (10YR 5/4) moist; few fine prominent strong brown (7.5YR 5/8) mottles; massive; very hard, very firm, very sticky and very plastic; few very fine roots; slightly effervescent; slightly alkaline; clear smooth boundary.
- C4—47 to 53 inches; very pale brown (10YR 7/4) clay loam, yellowish brown (10YR 5/4) moist; common medium prominent strong brown (7.5YR 5/8) mottles; massive; very hard, very firm, very sticky and very plastic; slightly effervescent; moderately alkaline; abrupt smooth boundary.
- C5—53 to 60 inches; dark gray (10YR 4/1) clay loam, very dark gray (10YR 3/1) moist; massive; very hard, very firm, very sticky and very plastic; 10 percent fine gravel; moderately alkaline.

Range in Characteristics

Particle-size control section: 35 to 59 percent clay

Redoximorphic features: concentrations and depletions close to the surface are relict features

Depth to salts: 20 to 35 inches, when present

Depth to water table: typically 6 feet or greater (4 to 5 feet in some pedons)

A horizon

Hue: 10YR, 2.5Y or 5Y

Value: 4 to 6 dry, 3 to 6 moist. When crushed, moist value is less than 3.5, thickness is less than 7 inches.

Chroma: 1 to 4 dry

Texture: clay loam, silty clay loam, silt loam, or clay

C horizon

Hue: 10YR, 2.5Y or 5Y

Value: 3 to 7 dry, 3 to 6 moist

Chroma: 1 to 4 dry and 1 to 6 moist

Texture: stratified clay loam, silty clay loam, silty clay, or clay (there are strata of textures as coarse as loamy sand)

Reaction: slightly alkaline to strongly alkaline

Sodicity: SAR of 5 to 30

Salinity: EC of 2 to 16, typically

Note: The Sparham component in map unit 51 is somewhat poorly drained and outside the range in characteristics of the series. The component is a taxadjunct to the series.

Stumble Series

Map unit: 106

Depth class: very deep

Drainage class: somewhat excessively drained

Landform: alluvial fans, fan aprons, fan remnants, and inset fans

Parent material: eolian sands derived from sandstone

Elevation: 5,000 to 5,600 feet (1,524 to 1,707 meters)

Slope: 1 to 40 percent

Climatic data:

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Taxonomic class: Mixed, mesic Typic Torripsamments

Typical Pedon

Stumble very gravelly fine sandy loam in an area of map unit 106, Stumble association, 1 to 40 percent slopes; Sandoval County; Bernalillo Quadrangle; about 1.5 miles northeast of the Sandia Indian Pueblo; 1,400 feet east and 401 feet north of the southwest corner of sec. 17, T. 12 N., R. 4 E. NAD 83, UTM 13—03 59 375 E—39 03 017 N.

A—0 to 4 inches; pale brown (10YR 6/3) very gravelly fine sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine and few medium roots; 45 percent pebbles; slightly effervescent; moderately alkaline; clear smooth boundary.

Bw—4 to 10 inches; brown (7.5YR 5/4) gravelly fine sandy loam, dark brown (7.5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common fine roots; 25 percent pebbles; slightly effervescent; mildly alkaline; gradual wavy boundary.

C1—10 to 24 inches; very pale brown (10YR 7/4) loamy sand, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common fine roots; 10 percent pebbles; slightly effervescent; moderately alkaline; gradual wavy boundary.

C2—24 to 60 inches; very pale brown (10YR 7/3) gravelly coarse sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; few fine roots; 20 percent pebbles; slightly effervescent; moderately alkaline.

Range in Characteristics

A horizon

Value: 6 or 7 dry, 4 or 5 moist

Chroma: 2 or 3, dry or moist

Reaction: neutral to moderately alkaline

Texture: gravelly loamy sand or very gravelly fine sandy loam

Bw horizon (when present)

Texture: gravelly fine sandy loam or loamy sand

C horizons

Hue: 10YR or 2.5Y

Value: 6 or 7 dry, 4 or 5 moist

Chroma: 2 or 3, dry or moist

Texture: loamy sand or gravelly coarse sand, with strata of fine sand and sand

Teco Series

Map unit: 399

Depth class: very deep

Drainage class: well drained

Landform: cuestras and hills

Parent material: slope alluvium derived from sandstone and shale

Elevation: 5,900 to 7,000 feet (1,798 to 2,134 meters)

Slope: 8 to 40 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Fine, mixed, mesic Aridic Haplustalfs

Typical Pedon

Teco very cobbly fine sandy loam, in an area of mapping unit 399; Cucho-Teco complex, 8 to 40 percent slopes; Sandoval County; Holy Ghost Spring Quadrangle; about 3 miles south of the Jemez-Zia Pueblo boundary along State Highway 44 then east .25 mile; unsectionized; NAD 83, UTM 13—03 27 701 E—39 48 805 N.

A—0 to 1 inch; yellowish brown (10YR 5/4) very cobbly fine sandy loam, dark brown (10YR 4/3) moist; weak fine granular structure; loose, very friable, nonsticky and nonplastic; many fine and few medium roots; 20 percent cobbles, 15 percent gravels; slightly alkaline; abrupt smooth boundary.

Bt1—1 inch to 7 inches; reddish brown (5YR 5/4) sandy clay, reddish brown (5YR 4/4) moist; moderate medium subangular blocky structure parting to moderate fine granular; hard, firm, sticky and plastic; common fine roots; few fine tubular pores; few fine clay films lining pores; slightly alkaline; clear smooth boundary.

Bt2—7 to 23 inches; reddish yellow (7.5YR 6/6) clay, strong brown (7.5YR 5/6) moist; moderate fine subangular and angular blocky structure; hard, firm, very sticky and very plastic; common fine roots; common fine tubular pores; few thin faint dark brown (7.5YR 4/4) clay skins on vertical faces of peds; slightly effervescent; slightly alkaline; gradual wavy boundary.

Btk—23 to 40 inches; pink (7.5YR 7/4) clay, light brown (7.5YR 6/4) moist; massive; hard, firm, sticky and plastic; few fine roots; strongly effervescent; few fine clay films on faces of peds; common medium irregularly shaped segregated soft masses of calcium carbonate; slightly alkaline; clear wavy boundary.

2C—40 to 45 inches; light yellowish brown (10YR 6/4) very gravelly fine sandy loam, yellowish brown (10YR 5/4) moist; massive; loose, nonsticky and nonplastic; strongly effervescent; 30 percent gravel, 10 percent cobbles; slightly alkaline; gradual wavy boundary.

3Bkb—45 to 60 inches; pale yellow (5Y 8/3) channery sandy clay loam, pale yellow (5Y 7/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; 25 percent soft shale fragments; strongly effervescent; many large, white (5YR 8/2) soft masses of calcium carbonate in rounded pockets and vertical seams; slightly alkaline.

Range in Characteristics

Particle-size control section: 35 to 45 percent clay

Depth to calcic horizon: 20 to 40 inches

A horizon

Hue: 10YR to 5YR

Value: 5 to 7 dry, 3 to 6 moist

Chroma: 3 or 4

Bt horizon

Hue: 7.5YR to 2.5YR

Value: 4 to 7 dry, 3 to 7 moist

Chroma: 2 to 6

Bk horizon

Hue: 7.5YR to 2.5YR

Value: 5 to 7 dry, 3 to 7 moist

Chroma: 4 to 8

Tijeras Series

Map units: 109, 112

Depth class: very deep

Drainage class: well drained

Landform: fan remnants and ridges

Parent material: fan alluvium derived from granite

Elevation: 5,100 to 5,600 feet (1,554 to 1,707 meters)

Slope: 1 to 6 percent

Climatic data:

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Taxonomic class: Fine-loamy, mixed, mesic Typic Haplargids

Typical Pedon

Tijeras gravelly fine sandy loam, in an area of mapping unit 109; Embudo-Tijeras association, 1 to 9 percent slopes; Sandoval County; Alameda Quadrangle; located about 2 miles east of interstate highway 25 and .75 mile north of the Bernalillo-Sandoval County line; 2,500 feet east and 2,000 feet south of the northwest corner of sec. 32, T. 12 N., R. 4 E. NAD 83, UTM 13—03 59 674 E—38 99 074 N.

A—0 to 4 inches; pale brown (10YR 6/3) gravelly fine sandy loam; brown (10YR 4/3) moist; moderate fine granular structure; slightly hard, friable, slightly sticky and nonplastic; many fine roots; 20 percent gravel; moderately alkaline; clear smooth boundary.

Bt—4 to 10 inches; brown (7.5YR 5/4) sandy clay loam, dark brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, sticky and slightly plastic; common fine roots; common fine tubular pores; common thin clay films on faces of peds; moderately alkaline; clear wavy boundary.

- Btk—10 to 20 inches; light brown (7.5YR 6/4) sandy clay loam, brown (7.5YR 5/4) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; common fine tubular pores; few thin clay films on faces of peds; slightly effervescent; few fine rounded calcium carbonate masses; moderately alkaline; clear wavy boundary.
- Bk1—20 to 26 inches; pink (7.5YR 7/4) gravelly sandy loam, light brown (10YR 6/4) moist; massive; hard, friable, slightly sticky and slightly plastic; few fine tubular pores; 20 percent gravel; strongly effervescent; few, medium rounded calcium carbonate masses; moderately alkaline; gradual wavy boundary.
- Bk2—26 to 60 inches; pink (7.5YR 7/4) very gravelly coarse sandy loam, brown (7.5YR 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; 50 percent gravel; slightly effervescent; few fine rounded pink calcium carbonate masses; moderately alkaline.

Range in Characteristics

Particle-size control section: 18 to 30 percent clay

A horizon

Hue: 7.5YR or 10YR

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 2 to 4

Bt horizon

Hue: 5YR to 10YR

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 2 to 5

Bk horizon

Hue: 7.5YR or 10YR

Value: 5 to 7 dry, 4 to 6 moist

Content of rock fragments: 35 to 70 percent granite gravel

Tocal Series

Map unit: 282

Depth class: very shallow to shallow

Drainage class: well drained

Landform: interfluvies on plateaus

Parent material: eolian material over residuum derived from tuff

Elevation: 7,000 to 8,000 feet (2,134 to 2,438 meters)

Slope: 3 to 8 percent

Climatic data:

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Taxonomic class: Clayey, mixed Lithic Eutroboralfs

Typical Pedon

Tocal very fine sandy loam, in an area of mapping unit 282, Tocal very fine sandy loam, 3 to 8 percent slopes; Los Alamos County; Guaje Mountain Quadrangle; about .5 mile northwest of LASL administration building; 750 feet west and 700 feet south of the center of sec. 17, T. 19 N., R. 6 E. NAD 83, UTM 13—03 79 860 E—39 70 969 N.

A—0 to 5 inches; grayish brown (10YR 5/2) very fine sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine roots; many interstitial pores; neutral; abrupt smooth boundary.

Bt1—5 to 8 inches; reddish brown (5YR 5/3) clay loam, reddish brown (5YR 4/3) moist; moderate fine subangular blocky structure; hard, friable, sticky and plastic; many fine roots; few very fine interstitial pores; thin continuous clay films on faces of peds; neutral; abrupt smooth boundary.

Bt2—8 to 11 inches; reddish brown (5YR 5/3) clay, reddish brown (5YR 4/3) moist; moderate coarse prismatic structure parting to moderate medium subangular blocky; hard, friable, sticky and plastic; many medium roots; few very fine tubular pores; thick continuous clay films on faces of peds; neutral; clear smooth boundary.

2Bt3—11 to 14 inches; light brown (7.5YR 6/4) silt loam, dark brown (7.5YR 4/4) moist; massive; hard, friable, sticky and plastic; many medium roots; few very fine tubular pores; few reddish brown (5YR 4/4) clay filling in pores; neutral; abrupt smooth boundary.

2Cr—14 inches; tuff.

Range in Characteristics

Particle-size control section: 15 to 45 percent clay

Depth to tuff bedrock: 8 to 20 inches

A horizon

Hue: 7.5YR or 10YR

Value: 4 to 6 dry, 2 to 4 moist

Chroma: 2 or 3

B horizon

Hue: 7.5YR or 5YR

Value: 4 to 6 dry, 3 or 4 moist

Chroma: 3 to 6

Totavi Series

Map units: 52, 88

Depth class: very deep

Drainage class: somewhat excessively drained

Landform: stream terraces, closed depressions, and valley floors

Parent material: stream alluvium derived from tuff and pumice

Elevation: 7,000 to 8,800 feet (2,134 to 2,682 meters)

Slope: 0 to 5 percent

Climatic data:

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Taxonomic class: Ashy, frigid Mollic Vitrandepts

Typical Pedon

Totavi loamy sand, in an area of mapping unit 52, Totavi loamy sand, 0 to 5 percent slopes; Los Alamos County; Frijoles Quadrangle; about 1.4 miles east of Meson Lab entrance; 100 feet south and 150 feet east of the center of sec. 24, T. 19 N., R. 6 E. NAD 83, UTM 13—03 86 516 E—39 69 460 N.

A—0 to 15 inches; grayish brown (10YR 5/2) loamy sand, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; 10 percent pebble-sized tuff and pumice fragments; neutral; abrupt wavy boundary.

C1—15 to 19 inches; grayish brown (10YR 5/2) loamy sand, very dark grayish brown (10YR 3/2) moist; single grain; loose, very friable, nonsticky and nonplastic; common very fine and fine roots; about 50 percent of the fine earth fraction is medium or coarser sand; 10 percent pebble-sized tuff and pumice fragments; neutral; abrupt boundary.

C2—19 to 60 inches; grayish brown (10YR 5/2) loamy sand, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and plastic; few very fine roots; about 35 percent of the fine earth fraction is medium or coarser sand; 10 percent pebble-sized tuff and pumice fragments; neutral.

Range in Characteristics

Particle-size control section: 5 to 15 percent clay

Content of rock fragments: tuff, pumice, latite, dacite

A horizon

Hue: 7.5YR or 10YR

Value: 4 or 5 dry, 2 or 3 moist

Chroma: 2 or 3, dry or moist

Texture: loamy sand or sandy loam

C or Bw horizon

Hue: 7.5YR or 10YR

Value: 4 to 7 dry, 3 to 5 moist

Chroma: 2 to 4

Trail Series

Map units: 10, 11, 29, 430, 431, 830, 831

Depth class: very deep

Drainage class: moderately well drained, somewhat excessively drained

Landform: flood plains, alluvial fans, channels, and valley floor remnants

Parent material: eolian material and stream alluvium derived from sandstone

Elevation: 5,000 to 6,000 feet (1,524 to 1,829 meters)

Slope: 0 to 4 percent

Climatic data:

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 53 to 55 degrees F. (11.7 to 12.8 degrees C.)

Frost-free period: 140 to 160 days

Taxonomic class: Sandy, mixed, mesic Typic Torrifluvents

Typical Pedon

Trail fine sandy loam, in an area of mapping unit 11, Trail fine sandy loam, 0 to 1 percent slopes; Sandoval County; Jemez Pueblo Quadrangle; Pena Blanca Area, unsectionized; NAD 83, UTM 13—03 47 611 E—39 36 023 N.

Ap—0 to 9 inches; light yellowish brown (10YR 6/4) fine sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, slightly sticky and slightly plastic; common fine roots; strongly effervescent; moderately alkaline; clear smooth boundary.

- C1—9 to 36 inches; very pale brown (10YR 7/4) loamy sand with stratum of sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; few fine roots; strongly effervescent; strongly alkaline; clear smooth boundary.
- C2—36 to 60 inches; very pale brown (10YR 7/4) sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; strongly effervescent; strongly alkaline.

Range in Characteristics

A horizon

Hue: 2.5YR to 10YR

Value: 5 to 7 dry, 4 to 6 moist

Chroma: 2 to 6 dry, 2, 3 or 4 moist

Texture: loamy sand, fine sandy loam, loam, or silty clay loam

C horizon

Hue: 2.5YR to 10YR

Value: 5 to 7 dry, 4 to 6 moist

Chroma: 2 to 6 dry, 2, 3 or 4 moist

Texture: loamy sand, loamy fine sand, fine sand, sand with thin strata of sandy loam, fine sandy loam, very fine sandy loam, loam, silt loam

Tranquilar Series

Map units: 302, 311

Depth class: very deep

Drainage class: somewhat poorly drained

Landform: stream terraces and valley floors

Parent material: lacustrine deposits from rhyolite and tuff

Elevation: 8,500 to 9,200 feet (2,591 to 2,804 meters)

Slope: 1 to 8 percent

Climatic data:

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Taxonomic class: Very-fine, montmorillonitic, frigid Typic Argialbolls

Typical Pedon

Tranquilar silty clay loam, in an area of mapping unit 302, Tranquilar-Jarmillo complex, 1 to 8 percent slopes; Sandoval County; Valle San Antonio Quadrangle; about 2.5 miles southeast from the northwest corner of Baca Location No. 1; unsectionized; NAD 83, UTM 13—03 56 228 E—39 83 041 N.

A1—0 to 4 inches; dark grayish brown (10YR 4/2) silty clay loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, sticky and plastic; many fine and very fine roots; slightly acid; clear smooth boundary.

A2—4 to 8 inches; dark grayish brown (10YR 4/2) silty clay loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; slightly hard, friable, sticky and plastic; common very fine and few medium roots; slightly acid; clear smooth boundary.

E1—8 to 11 inches; gray (10YR 6/1) silty clay loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; slightly hard, friable, sticky and plastic; few very fine roots; slightly acid; abrupt smooth boundary.

- E2—11 to 13 inches; light gray (10YR 7/2) ped exteriors silty clay loam, dark grayish brown (10YR 4/2) moist; ped interiors, light brownish gray (10YR 6/2), very dark grayish brown (10YR 3/2) moist; few fine faint reddish yellow (7.5YR 6/6) mottles inside peds; weak thin platy structure; slightly hard, friable, sticky and plastic; few very fine roots; medium acid; abrupt smooth boundary.
- Bt1—13 to 20 inches; very dark grayish brown (10YR 3/2) ped exteriors clay, very dark brown (10YR 2/2) moist; ped interiors brown (10YR 5/3), dark brown (10YR 3/3) moist; few fine faint reddish yellow (7.5YR 6/6) mottles inside peds; strong medium prismatic structure parting to strong medium angular blocky; very hard, very firm, very sticky and very plastic; few very fine and few medium roots; thin organic films; thin clay films on faces of peds; pressure faces on a few peds; strongly acid; gradual wavy boundary.
- Bt2—20 to 34 inches; dark grayish brown (10YR 4/2) ped exteriors clay, very dark grayish brown (10YR 3/2) moist; clay interiors very pale brown (10YR 7/3), brown (10YR 4/3) moist; few fine faint reddish yellow (7.5YR 6/6) mottles inside peds; strong medium angular blocky structure; very hard, very firm, very sticky and very plastic; few very fine roots; continuous moderately thick clay films and organic stains on faces of peds; pressure faces on a few peds; very strongly acid; gradual wavy boundary.
- Bt3—34 to 42 inches; light yellowish brown (10YR 6/4) clay, dark yellowish brown (10YR 4/4) moist; common fine prominent yellowish red (5YR 5/6) mottles; moderate coarse prismatic structure parting to moderate fine and medium angular blocky; very hard, very firm, very sticky and very plastic; few very fine and medium roots; continuous moderately thick clay films on faces of peds with discontinuous patchy organic films; pressure faces on a few peds; very strongly acid; gradual wavy boundary.
- Bt4—42 to 50 inches; light gray (2.5Y 7/2) clay, light brownish gray (2.5Y 6/2) moist; common, fine, prominent reddish yellow (7.5YR 6/6) mottles; weak coarse prismatic structure parting to moderate fine and medium angular blocky; very hard, very firm, very sticky and very plastic; few very fine and medium roots; continuous moderately thick clay films on faces of peds; pressure faces on a few peds; extremely acid; gradual wavy boundary.
- Bt5—50 to 60 inches; light gray (2.5Y 7/2) clay, light brownish gray (2.5Y 6/2) moist; common fine prominent reddish yellow (7.5YR 6/8) mottles; very dark grayish brown (2.5Y 3/2) moist; moderate coarse prismatic structure parting to moderate fine and medium subangular blocky; hard, firm, sticky and plastic; few very fine and medium roots; continuous moderately thick clay films on faces of peds; very strongly acid; gradual wavy boundary.

Range in Characteristics

Particle-size control section: 60 to 75 percent clay

Depth to a seasonal water table: 20 to 48 inches from March to July

A horizon

Value: 3 to 5 dry, 2 or 3 moist

Chroma: 1 or 2 dry or moist

Texture: silt loam, silty clay loam

E horizon

Value: 5 to 7 dry, 3 to 6 moist

Chroma: 1 or 2 dry or moist

Texture: silt loam or silty clay loam

Bt horizon*Hue:* 7.5YR or 10YR*Value:* 3 to 7 dry, 2 to 7 moist*Chroma:* 3 to 8***Tsosie Series****Map unit:* 270*Depth class:* very deep*Drainage class:* well drained*Landform:* stream terraces and alluvial fans*Parent material:* stream alluvium derived from shale and sandstone*Elevation:* 6,600 to 7,000 feet (2,012 to 2,134 meters)*Slope:* 0 to 3 percent*Climatic data:**Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 48 to 52 degrees F. (10.0 to 11.1 degrees C.)*Frost-free period:* 110 to 130 days*Taxonomic class:* Fine-loamy, mixed, calcareous, mesic Ustic Torriorthents**Typical Pedon**

Tsosie clay loam, in an area of mapping unit 270, Blancot-Councilor-Tsosie association, 0 to 5 percent slopes; Sandoval County; Galisteo SE Quadrangle; about 8 miles south of Galisteo, 1,100 feet north and 2,200 feet west of the southeast corner of sec. 6, T. 21 N., R. 6 W. NAD 83, UTM 13—02 74 088 E—39 95 089 N.

A—0 to 2 inches; pale brown (10YR 6/3) clay loam, brown (10YR 5/3) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine and fine continuous pores; slightly effervescent; moderately alkaline; clear smooth boundary.

C1—2 to 10 inches; brown (10YR 5/3) loam, dark brown (10YR 4/3) moist; massive; hard, firm, slightly sticky and slightly plastic; common very fine roots; slightly effervescent; strongly alkaline; clear gradual boundary.

C2—10 to 20 inches; brown (10YR 5/3) clay loam, dark brown (10YR 4/3) moist; massive; very hard, very firm, sticky and plastic; few very fine roots; strongly effervescent; strongly alkaline; clear smooth boundary.

C3—20 to 26 inches; pale brown (10YR 6/3) clay loam, brown (10YR 5/3) moist; massive; hard, firm, slightly sticky and slightly plastic; few very fine roots; slightly effervescent; strongly alkaline; clear smooth boundary.

C4—26 to 36 inches; yellowish brown (10YR 5/4) clay loam, dark yellowish brown (10YR 4/4) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine continuous pores; strongly alkaline; clear smooth boundary.

C5—36 to 44 inches; yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine roots; moderately alkaline; clear smooth boundary.

C6—44 to 55 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; strongly alkaline; clear smooth boundary.

C7—55 to 60 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 5/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; strongly effervescent; strongly alkaline.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay

A horizon

Hue: 2.5Y or 10YR

Value: 5 to 7 dry, 4 or 5 moist

Chroma: 2 to 4

C horizon

Hue: 2.5Y or 10YR

Value: 5 to 7 dry, 3 to 5 moist

Chroma: 2 to 4

Texture: clay loam, sandy clay loam, or loam in upper part of the subsoil; stratified sandy loam to silty clay loam in the lower part.

Note: In some pedons, fine sandy loam, sandy loam, and silt loam textures occur below the control section or as thin lenses within it.

Vastine Series

Map unit: 301

Depth class: very deep

Drainage class: poorly drained

Landform: flood plains, stream terraces, and valley floors

Parent material: mixed stream alluvium

Elevation: 8,400 to 8,600 feet (2,560 to 2,621 meters)

Slope: 0 to 3 percent

Climatic data:

Mean annual precipitation: 20 to 25 inches (508 to 635 millimeters)

Mean annual air temperature: 42 to 45 degrees F. (5.6 to 7.2 degrees C.)

Frost-free period: 60 to 90 days

Taxonomic class: Fine-loamy over sandy or sandy-skeletal, mixed, frigid Typic Haplaquolls

Typical Pedon

Vastine silt loam, in an area of mapping unit 301, Vastine-Jarola silt loams, 0 to 5 percent slopes; Sandoval County; Valle San Antonio Quadrangle; about .1 mile southwest of hot springs in San Antonio Valley, Baca Location No. 1; unsectionized; NAD 83, UTM 13—03 59 079 E—39 81 660 N.

A1—0 to 4 inches; dark gray (10YR 4/1) silt loam, black (10YR 2/1) moist; moderate medium granular structure; slightly hard, firm, sticky and plastic; many fine and very fine roots; neutral; clear smooth boundary.

A2—4 to 11 inches; gray (10YR 5/1) loam, very dark gray (10YR 3/1) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; common fine and few very fine roots; neutral; gradual smooth boundary.

Bw—11 to 24 inches; light gray (10YR 6/1) loam, gray (10YR 5/1) moist; common fine distinct pale yellow (2.5Y 7/4) mottles; moderate medium blocky structure; hard, firm, sticky and plastic; few fine roots; 10 percent gravel; neutral; clear smooth boundary.

2C—24 to 60 inches; gray (10YR 5/1) very gravelly loamy sand, dark gray (10YR 4/1) moist; massive; loose, nonsticky and nonplastic; 55 percent gravel; slightly alkaline.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay in the upper part of the subsoil

Depth to a seasonal high water table: 12 to 36 inches

Depth to the gravelly substratum: 24 to 33 inches

A horizon

Hue: 5Y to 7.5YR

Value: 4 or 5 dry, 2 or 3 moist

Chroma: 1 or 2

B horizon

Hue: 5Y to 7.5YR

Value: 4 to 6 dry, 2 to 5 moist

Chroma: 0 to 8.

Other features: colors in this horizon are variegated in some pedons

2C horizon

Hue: 5Y to 7.5YR

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 1 to 3

Content of rock fragments: 35 to 60 percent gravel is common below 24 inches

Other features: colors in this horizon are variegated in some pedons

Vessilla Series

Map units: 17, 220, 325, 342, 397, 422

Depth class: very shallow to shallow

Drainage class: well drained

Landform: structural benches on escarpments and breaks; sideslopes of hills, mesas, and ridges

Parent material: eolian material, slope alluvium, and residuum derived from sandstone

Elevation: 6,000 to 7,500 feet (1,829 to 2,286 meters)

Slope: 3 to 65 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Loamy, mixed, calcareous, mesic Lithic Ustorthents

Typical Pedon

Vessilla gravelly fine sandy loam, in an area of mapping unit 397, Rock outcrop-Cucho-Vessilla complex, 25 to 70 percent slopes; Sandoval County; Holy Ghost Spring Quadrangle; 15 miles northwest of San Ysidro; NAD 83, UTM 13—03 28 014 E—39 50 605 N.

A—0 to 2 inches; light yellowish brown (10YR 6/4) gravelly fine sandy loam, yellowish brown (10YR 5/4) moist; weak fine granular structure; soft, very friable, slightly sticky and nonplastic; common fine and medium fine roots; 25 percent gravel; strongly effervescent; moderately alkaline; clear smooth boundary.

C—2 to 11 inches; light brown (7.5YR 6/4) gravelly fine sandy loam, brown (7.5YR 5/4) moist; massive; loose, nonsticky and nonplastic; common fine roots; 20 percent gravel; strongly effervescent; moderately alkaline; abrupt smooth boundary.

R—11 inches; sandstone.

Range in Characteristics

Particle-size control section: 12 to 20 percent clay

Depth to sandstone: 4 to 20 inches

A and C horizons

Hue: 7.5YR or 10YR

Value: 4 to 7 dry, 4 to 6 moist

Chroma: 3 to 6 dry or moist

Texture: sandy loam, fine sandy loam, loamy sand, loam, gravelly fine sandy loam, gravelly loamy sand, gravelly sandy loam, very gravelly sandy loam, gravelly loam, and channery loam

Waumac Series

Map units: 300, 307, 314, 321, 342

Depth class: very deep

Drainage class: well drained

Landform: alluvial fans, valley floors, and stream terraces

Parent material: fan and stream alluvium derived from sandstone and igneous rocks

Elevation: 5,400 to 6,900 feet (1,646 to 2,103 meters)

Slope: 1 to 20 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Coarse-loamy, mixed, calcareous, mesic Typic Ustorthents

Typical Pedon

Waumac loamy sand, in an area of mapping unit 300, Waumac-Bamac association, 1 to 7 percent slopes; Sandoval County; Santo Domingo Pueblo Quadrangle; one-half mile south of the Cochiti Indian Pueblo, 100 yards east of the Highway 85; 100 feet west and 1,070 feet north of the southeast corner of sec. 24, T. 16 N., R. 5 E. NAD 83, UTM 13—03 77 273 E—39 40 079 N.

A—0 to 3 inches; pale brown (10YR 6/3) loamy sand, dark grayish brown (10YR 4/2) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; many very fine and common fine roots; few fine tubular pores; moderately alkaline; clear smooth boundary.

C1—3 to 31 inches; pale brown (10YR 6/3) fine sandy loam, dark yellowish brown (10YR 4/4) moist; massive; loose, nonsticky and nonplastic; few very fine roots; slightly effervescent; moderately alkaline; gradual wavy boundary.

C2—31 to 60 inches; pale brown (10YR 6/3) gravelly fine sandy loam; dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; 20 percent gravel; slightly effervescent; moderately alkaline.

Range in Characteristics

Particle-size control section: 10 to 18 percent clay

A horizon

Hue: 7.5YR, 10YR or 2.5Y

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 to 4

Texture: loamy sand or loamy fine sand

C horizon*Hue:* 5YR, 7.5YR or 10YR*Value:* 5 or 6 dry, 4 or 5 moist*Chroma:* 3 or 4*Texture:* sandy loam, fine sandy loam, and gravelly fine sandy loam

Note: Thin strata of loamy sand and coarse sandy loam occur in some pedons. This horizon can be noncalcareous to depths of 18 inches in some pedons.

Waumac Variant Series*Map unit:* 354*Depth class:* shallow*Drainage class:* well drained*Landform:* hills*Parent material:* coarse textured material derived from tuff*Elevation:* 5,600 to 5,900 feet (1,707 to 1,798 meters)*Slope:* 1 to 15 percent*Climatic data:**Mean annual precipitation:* 13 to 16 inches (305 to 356 millimeters)*Mean annual air temperature:* 48 to 52 degrees F. (10.0 to 11.1 degrees C.)*Frost-free period:* 110 to 130 days*Taxonomic class:* Ashy-skeletal, mesic, shallow Typic Ustorthents**Typical Pedon**

Waumac Variant very gravelly sandy loam, in an area of mapping unit 354, Waumac variant very gravelly sandy loam, 1 to 15 percent slopes; Sandoval County; Cochiti Dam Quadrangle; 0.5 mile south of the old sawmill, 2,200 feet north and 1,000 feet east of the southwest corner of sec. 31, T. 17 N., R. 6 E. NAD 83, UTM 13—03 77 535 E—39 46 752 N.

A—0 to 3 inches; light brownish gray (10YR 6/2) very gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common interstitial pores; 55 percent gravel; slightly alkaline; clear smooth boundary.

C—3 to 12 inches; light brownish gray (10YR 6/2) very gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; common interstitial pores; 55 percent gravel; slightly alkaline.

Cr—12 inches; tuff.

Range in Characteristics*Particle-size control section:* 10 to 18 percent clay*Depth to paralithic contact:* 10 to 20 inches**A horizon:***Hue:* 10YR*Value:* 5 or 6 dry, 4 or 5 moist*Chroma:* 2 to 4**C horizon***Hue:* 10YR*Value:* 5 or 6 dry, 4 or 5 moist*Chroma:* 3 or 4

Wauquie Series

Map units: 348, 414, 419

Depth class: very deep

Drainage class: well drained

Landform: mountain slopes, benches, canyons, hills, and mesas

Parent material: slope alluvium and colluvium derived from granite and shale

Elevation: 6,000 to 8,400 feet (1,829 to 2,560 meters)

Slope: 8 to 55 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (10 to 11.1 degrees C.)

Frost-free period: 110 to 130 days

Taxonomic class: Loamy-skeletal, mixed, mesic Aridic Haplustalfs

Typical Pedon

Wauquie extremely cobbly fine sandy loam, in an area of mapping unit 419; Santa Fe-Wauquie-Rock outcrop, 25 to 70 percent slopes; Sandoval County; La Ventana Quadrangle; about 5 miles east of La Ventana; unsectionized; NAD 83, UTM 13—03 28 986 E—39 62 292 N.

A—0 to 4 inches; reddish brown (5YR 5/4) extremely cobbly fine sandy loam, dark reddish brown (5YR 3/4) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine and common medium roots; many very fine vesicular pores; 5 percent stones; 25 percent cobbles, and 45 percent gravel; neutral; clear smooth boundary.

Bt1—4 to 11 inches; reddish brown (2.5YR 4/4) extremely cobbly sandy clay loam, dark reddish brown (2.5YR 3/4) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; many very fine and common medium roots; common very fine tubular pores; common distinct clay films on faces of peds and in pores; 5 percent stones, 25 percent cobbles and 45 percent gravel; neutral; gradual smooth boundary.

Bt2—11 to 18 inches; reddish brown (2.5YR 4/4) extremely cobbly sandy clay loam, dark reddish brown (2.5YR 3/4) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common medium roots; common very fine tubular pores; common distinct clay films on faces of peds and in pores; 5 percent stones, 25 percent cobbles and 45 percent gravel; neutral; gradual smooth boundary.

Bt3—18 to 29 inches; reddish brown (5YR 4/4) extremely cobbly sandy loam, dark reddish brown (5YR 3/4) moist; massive; soft, friable, nonsticky and nonplastic; common medium roots; few very fine tubular pores; many colloidal stains on sand grains and gravel; 5 percent stones, 25 percent cobbles and 50 percent gravel; slightly alkaline; gradual smooth boundary.

Bk—29 to 60 inches; light reddish brown (5YR 6/4) extremely cobbly sand, reddish brown (5YR 5/4) moist; massive; loose, nonsticky and nonplastic; few medium roots; few interstitial pores; 5 percent stones, 25 percent cobbles, and 50 percent gravel; few calcium carbonate coatings on underside of gravel; slightly alkaline.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay

A horizon*Hue:* 5YR to 10YR*Value:* 3 to 6 dry, 2 to 4 moist*Chroma:* 2 to 4*Texture:* extremely gravelly sandy clay loam, extremely cobbly fine sandy loam, or very gravelly fine sandy loam**Bt horizon (Btk horizon in some pedons)***Hue:* 2.5YR to 10YR*Value:* 4 to 6 dry, 3 or 4 moist*Chroma:* 2 to 6*Texture:* very gravelly clay loam, extremely cobbly sandy clay loam, very gravelly sandy clay loam, and extremely cobbly sandy loam**Bk horizon***Hue:* 2.5YR to 10YR*Value:* 5 to 8 dry, 4 to 6 moist*Chroma:* 2 to 6*Texture:* very gravelly sandy loam, very gravelly loamy coarse sand, extremely gravelly loamy sand, extremely cobbly sandy loam, extremely cobbly sand, extremely cobbly loam***Winona Series****Map unit:* 228*Depth class:* shallow*Drainage class:* well drained*Landform:* hills and plateaus*Parent material:* material derived from travertine*Elevation:* 5,900 to 6,300 feet (1,798 to 1,920 meters)*Slope:* 8 to 25 percent*Climatic data:**Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 52 to 54 degrees F. (11.1 to 12.2 degrees C.)*Frost-free period:* 120 to 140 days*Taxonomic class:* Loamy-skeletal, carbonatic, mesic Lithic Ustollic Calciorthids**Typical Pedon**

Winona very channery fine sandy loam, in an area of mapping unit 228, Winona very channery fine sandy loam, 8 to 25 percent slopes; Sandoval County; San Ysidro Quadrangle; about 10 miles northwest of San Ysidro; NAD 83, UTM 13—03 30 477 E—39 42 612 N.

A—0 to 2 inches; brown (7.5YR 5/4) very channery fine sandy loam, dark brown (7.5YR 4/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine roots; 15 percent cobbles and 40 percent channers; coarse fragments are carbonate concretions and travertine fragments coated with pendants of calcium carbonate; violently effervescent; slightly alkaline; clear smooth boundary.

Bk—2 to 13 inches; brown (7.5YR 5/4) very channery loam, dark brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; 45 percent channers with calcium carbonate pendants; violently effervescent; slightly alkaline.

R—13 inches; travertine.

Range in Characteristics

Particle-size control section: 15 to 30 percent clay

Depth to bedrock: 11 to 20 inches

A horizon

Hue: 5YR, 7.5YR, 10YR

Value: 4, 5, or 6 dry, 3 or 4 moist

Chroma: 2, 3, or 4 dry

Bk horizon

Hue: 5YR, 7.5YR, 10YR

Value: 5, 6, or 7 dry; 3, 4, 5, or 6 moist

Chroma: 2, 3, or 4, dry or moist

Witt Series

Map units: 34, 53, 217

Depth class: very deep

Drainage class: well drained

Landform: bajadas, fan terraces, and mesas

Parent material: Eolian material and fan alluvium from basalt

Elevation: 5,200 to 6,700 feet (1,585 to 2,042 meters)

Slope: 1 to 8 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Fine-silty, mixed, mesic Ustollic Haplargids

Typical Pedon

Witt loam, in an area of mapping unit 53, Witt-Harvey association, 1 to 7 percent slopes; Sandoval County; Golden Quadrangle; about 3 miles northwest of Golden; 300 feet south and 900 feet west of the northeast corner of sec. 1, T. 12 N., R. 6 E. NAD 83, UTM 13—03 86 526 E—39 07 226 N.

A—0 to 3 inches; brown (7.5YR 5/4) loam, brown (7.5YR 4/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many fine and medium roots; moderately alkaline; abrupt smooth boundary.

BA—3 to 6 inches; brown (7.5YR 4/4) silt loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; common fine and medium roots; mildly alkaline; clear smooth boundary.

Bt1—6 to 11 inches; brown (7.5YR 4/4) silty clay loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; hard, friable, slightly sticky and plastic; common fine and very fine roots; few thin clay films on faces of peds; strongly effervescent; mildly alkaline; clear smooth boundary.

Bt2—11 to 18 inches; light brown (7.5YR 6/4) silty clay loam, brown (7.5YR 4/4) moist; moderate fine and medium subangular blocky structure; hard, firm, sticky and plastic; common fine and very fine roots; few thin clay films on faces of peds; strongly effervescent; moderately alkaline; clear smooth boundary.

Btk—18 to 25 inches; light brown (7.5YR 6/4) silty clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, sticky and plastic; common fine and very fine roots; few thin clay films on faces of peds; strongly effervescent; common medium masses of calcium carbonate; moderately alkaline; clear smooth boundary.

- Bk1—25 to 39 inches; light brown (7.5YR 6/4) silt loam, brown (7.5YR 4/4) moist; weak medium and fine subangular blocky structure; slightly hard, friable, sticky and plastic; many fine and very fine roots; strongly effervescent; common medium masses of calcium carbonate; moderately alkaline; abrupt smooth boundary.
- Bk2—39 to 53 inches; pinkish white (7.5YR 8/2) silt loam, pinkish gray (7.5YR 7/2) moist; massive; slightly hard, firm, sticky and plastic; few very fine roots; violently effervescent; many medium masses of calcium carbonate; moderately alkaline; gradual wavy boundary.
- C—53 to 60 inches; pink (7.5YR 7/4) silt loam, brown (7.5YR 5/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; violently effervescent; moderately alkaline.

Range in Characteristics

Particle-size control section: 18 to 35 percent clay

A horizon

Hue: 5YR, 7.5YR, 10YR

Value: 4 to 7 dry, 3 to 5 moist

Chroma: 2 to 4

Texture: very fine sandy loam or loam

Bt horizon

Hue: 5YR, 7.5YR, 10YR

Value: 4 to 7 dry, 3 to 5 moist

Chroma: 2 to 6

Texture: silty clay loam, silt loam, and loam

Bk horizon

Hue: 5YR or 7.5YR

Value: 5 to 8 dry, 4 to 7 moist

Chroma: 2 to 4

Texture: loam, silt loam, silty clay loam, or very fine sandy loam

Note: A C horizon is present in some pedons.

Zia Series

Map units: 66, 91, 93, 111, 114, 190, 207, 211, 234, 410

Depth class: very deep

Drainage class: somewhat excessively well drained

Landform: alluvial fans, stream terraces, summits of mesas and plateaus

Parent material: eolian material and fan and stream alluvium derived from sandstone

Elevation: 5,000 to 6,900 feet (1,524 to 2,103 meters)

Slope: 0 to 25 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 52 to 54 degrees F. (11.1 to 12.2 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Coarse-loamy, mixed, calcareous, mesic Ustic Torriorthents

Typical Pedon

Zia sandy loam, in an area of mapping unit 211, Zia-Clovis association, 2 to 10 percent slopes; Sandoval County; Arroyo de las Calabacillas Quadrangle; about 6

miles east of Alamo Ranch Headquarters; 1,400 feet west and 300 feet north of the southeast corner of sec. 21, T. 13 N., R. 1 E. NAD 83, UTM 13—03 33 005 E—39 11 510 N.

- A—0 to 5 inches; pale brown (10YR 6/3) sandy loam, dark brown (10YR 3/3) moist; weak medium granular structure; soft, friable, slightly sticky and slightly plastic; common very fine and few fine roots; 5 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
- Bw—5 to 14 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; soft, friable, slightly sticky and slightly plastic; few fine and very fine roots; strongly effervescent; slightly alkaline; clear smooth boundary.
- C1—14 to 33 inches; light gray (10YR 7/2) sandy loam, brown (10YR 5/3) moist; massive; hard, friable, slightly sticky and slightly plastic; few fine and very fine roots; strongly effervescent; slightly alkaline; gradual smooth boundary.
- C2—33 to 46 inches; very pale brown (10YR 7/3) sandy clay loam, yellowish brown (10YR 5/4) moist; massive; hard, firm, sticky and plastic; few fine and very fine roots; 5 percent gravel; violently effervescent; calcium carbonate as very few fine irregular masses; moderately alkaline; clear smooth boundary.
- C3—46 to 60 inches; light yellowish brown (10YR 6/4) sandy loam, brown (10YR 5/3) moist; massive; soft, friable, slightly sticky and slightly plastic; 10 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

Particle-size control section: 8 to 18 percent clay

A horizon

Hue: 5YR to 10YR

Value: 4 to 7 dry, 3 to 5 moist

Chroma: 2 to 6

Texture: loamy sand, sandy loam, fine sandy loam, or loam

Bw or C horizon

Hue: 5YR to 10YR

Value: 4 to 8 dry, 3 to 7 moist

Chroma: 2 to 6

Texture: fine sandy loam or sandy loam. The C horizon contains strata of loamy sand or sandy clay loam in most pedons.

Factors of Soil Formation

Soil is a collection of natural bodies occurring on the earth's surface and is capable of supporting plants. Its properties result from the extent to which physical, chemical, and biological processes have affected the material from which soil is derived, the parent material. The main processes active in the soils of the Sandoval County area are: weathering of soil particles and rock material through dissolution and disintegration; accumulation and oxidation of organic matter in surface layers; formation of soil structure and surface crusting; movement of dissolved soil constituents with soil water, and precipitation of soil constituents from soil water; and movement of clay particles with soil water downward through the soil.

Most of these soil processes enhance plant growth, and some bring about hindrances to plant growth. Some soil processes are dependent upon other processes having reached a certain stage. Soil processes, or their lack, give the present soil its characteristics and are governed by five soil-forming factors: *time*, *parent material*, *climate*, *relief*, and *living organisms*. Understanding and recognizing soil-forming processes that occur affords the soil user the ability to predict the capability of soils for many uses.

Climate

The *climate* of an area is greatly responsible for the types of soil processes and for the rate at which these processes occur. The main features of climate affecting soil processes are precipitation and temperature.

The climate of the Sandoval County area at present is semi-arid continental. The lowest areas have annual precipitation of about eight inches and mean annual air temperature of about 55 degrees. These being the driest are areas of least vegetation. The small amount of organic matter produced by the vegetation is rapidly oxidized, resulting in soils with light colored surface horizons as in Sheppard and Grieta series.

With increased temperature, chemical and biochemical reactions are hastened. In addition, freeze-thaw cycles speed the weathering of soil and rock particles. The temperature also greatly affects evaporation of water from the soil and transpiration of water from plants.

As the amount of precipitation increases, the potential amount of vegetation on a soil increases. The number of days per year that the soil is moist during the frost-free period determines how much vegetation can be supported and the time during which soil processes occur. The depth to which water penetrates the soil is also very important as it determines the maximum depth of root penetration and the depth beyond which soil transforming processes are greatly slowed. If there is not enough precipitation for water to move through the entire soil and enter the ground water system, calcium carbonate deposits are precipitated at the depth of maximum water penetration.

In the cold, wet, mountainous areas of the Sandoval County area, soils such as Redondo and Calaveras series support stands of large trees. These areas receive 25 or more inches of precipitation per year and the average annual air temperature is about 40 degrees F. The soils in these areas are moist more days per year than most

other soils in the Sandoval County area. The cooler temperatures allow for a buildup of organic matter in the surface layers of these soils.

Older soils in the area have been influenced by past climates. Past climates were similar to the present one, but slightly more moist and cooler. Similar soil processes took place, at an accelerated rate when compared to present conditions. For this reason, some soils in the driest part of the Sandoval County area have strongly developed features such as the petrocalcic horizon of the Pastura series, and the calcic and argillic horizons of the Clovis series.

Living Organisms

The life associated with a soil greatly influences the processes within, the features and the characteristics of a soil.

The vegetation supported by a soil is part of this life. Plant roots provide channels for water flow into depths of soils which otherwise might receive little water. Plant material provides the bulk of the organic portion of soil that is important to fertility. Plant life is very important in retaining soils in place, protecting them from erosion. A good plant cover will reduce evaporation of water from the soil surface and reduce runoff, providing a soil with more moist days each year. The plant cover also shades the soil surface and causes the soil to stay cooler than areas exposed to direct sunlight.

Soil insects, worms, and rodents affect aeration and intake rate by mixing and burrowing. Some animals affect the vegetation on the soil by their eating habits. Large animals, especially in dry areas where soil crusts form, enhance seed germination by walking across the soil surface, providing in their hoof prints a favorable seedbed.

Microscopic organisms function importantly in nutrient cycling. Fungi, bacteria, nematodes, and others process organic material and release nutrients for further plant growth. They also add acids, gases, and other chemical compounds that affect soil processes.

Many soils have been changed as a result of human intervention. People change vegetation on soils, animal and microbial life of soils, soil climate, and relief, through urban development, farming, ranching, logging, and sundry enterprises.

Topography

Soil *topography* has a profound influence on the development of soil features. Its many facets, including degree of slope, direction of slope, shape and roughness of slope, influence the climate of a soil and the extent of erosive forces affecting a soil.

On steep soils, erosion potential is greatest and soil features develop slowly. As organic matter accumulations and weathered soil material washes away, new soil parent material or bedrock nears the surface. If the erosion is moderate or severe, it is accompanied by a decrease in vegetation and an increase in runoff water, which in turn enhances the erosion.

Soils on very slight or level slopes often receive depositions of soil material. This process also slows the development of soil features, since soil material is buried too deeply before soil transforming processes are able to cause features to develop. This process is accompanied by an increase in amount of vegetation since along with new material, the soil receives run-on water.

The climate of a soil is affected greatly by the runoff or run-on water it sheds or receives.

Soils with a concave slope such as San Mateo or Sparank series receive a great amount of their moisture from adjacent, steeper slopes. Soils with more slope shed various amounts of water, depending on their steepness, amount of vegetation, and surface roughness. Soils with a very gravelly surface composed of angular pebbles

protruding from the surface can retain precipitation, even with a steep slope. A very gravelly surface of rounded, imbedded gravel however will shed water rapidly and deprive the soil of moisture.

On steep slopes there is a wide difference in climate between adjacent north-facing and south-facing slopes. Less direct sunlight on north-facing slopes results in an evapotranspiration rate and temperatures lower than that on south-facing slopes. This accounts for more days during which the soil is moist and more vegetation on north-facing slopes.

Topography has been an important factor in developing the landforms of this area. The following are landforms recognized in the survey area and some of the soils associated with them. Landforms are not static; they are continually being created and eroded.

Alluvial Fans

Alluvial fans originate from upslope landscapes. Sediment loads are deposited when slope gradients change from upland positions to less sloping landforms. An inherent feature of fan development is the continuously changing pattern of channels and loci of deposition. Over a long period of time, these changes ensure the maintenance of fans formed by distributing material widely over the surface. The soils on this landscape position are generally very deep with soil textures highly variable depending on the local geology from which they are formed. In this survey, the soil series found on alluvial fan positions are the Querencia series.

Dunes

This landform has developed from Holocene-age and present-day eolian sands. These relatively small transverse dunes formed perpendicular to the prevailing winds. Most dunes in this area are stable due to the establishment of vegetation that restricts their activity. *Dunes* can be found as a component on most of the other landforms portrayed in this section. These soils can be very deep and located in large dune fields or as a shallow mantle over bedrock controlled surfaces. The Mespun series is found on dunes.

Escarpmnts

Escarpmnts are a familiar feature in the survey area. They are relatively steep slopes or cliffs produced by erosion and faulting. Due to the steep slopes the soils formed on this landform are generally shallow. Examples of soil series on escarpments are the Skyvillage and Santa Fe series.

Fan Remnants

On this position, soils exhibit different degrees of pedogenic (soil) development. The degree of development depends upon the amounts of translocated calcium carbonate and/or silicified clays, which are related to the age of the soil.

Fan remnants have been dissected or downcut to the point at which flooding rarely occurs. This landform has two important components. One is the summit, where erosional activity is relatively low. This area will show the different degrees of soil development and age. The second component is the side slope, where erosional activity is cutting uphill into the more stable summit. In most areas in the survey, the surface has a thick eolian mantle that is being eroded.

Soils on fan remnants vary greatly in their makeup. The Pinitos series can be found in the survey area on fan remnants.

Flood Plains

This landform is formed by early Holocene-age to present-day stream alluvium. In this survey area, floodwaters flow at low to very low gradients along valley floors and

are elongated in nature. The soils on these flood plains receive periodic depositions of fresh alluvium, causing an irregular decrease in organic carbon and weak to no soil development. Soils on this landform are predominantly very deep with soil textures highly variable depending on the local geology they are formed from. The Jocity and Trail soils are formed in flood plains found along the Rio Grande and Jemez Rivers.

Mesas and Cuestas

These landforms have two important components. The first consists of the mesa summit and the cuesta dip slope. They are both nearly level to gently sloping, bedrock-controlled surfaces that are generally stable. The Bond and Hagerman series are found on these surfaces. The soils are characterized by well-developed argillic horizons.

The second component is the escarpment, where erosional activity is cutting back into the more stable summit. Soils on this component have little or no horizon development due to the steep slopes where erosional activity is greatest. Typical soils representing this escarpment component are the Vessilla and Skyvillage series.

Mesas differ from cuestas in that an escarpment on all sides terminates the mesa summit, while a cuesta will generally have one or more sides that grade into the surrounding terrain following gentle slopes.

Stream Terraces

This position is the erosional remnant of the active flood plains that existed during the late Pleistocene to Holocene ages. The slopes are in the same general direction as the current flood plain. The soils in this position are underlain by stratified sand, gravel, loamy, silty, or clayey sediments and, in some cases, buried paleosols.

The soils on stream terraces have been stable for a sufficient time period to form cambic horizons. Formation of soil structure and accumulations of calcium carbonate and sometimes gypsum characterize a cambic horizon. This position is still subject to some flooding during major events. These rare flooding occurrences and the thin alluvial deposits from the floodwaters do not inhibit soil development. Typical soils that represent stream terraces are the Zia and Councilor series.

Mountains

The mountain slopes consist of multiple landforms and positions and may be formed by several processes are therefore not considered a geomorphic surface. Soil development on these landforms is highly dependent on the nature of the bedrock such as its chemical composition, grain size, and hardness. The most influential soil-forming factors in determining how soil developed on hills and mountains are time and the slope gradient of the bedrock.

Soils on this landform vary greatly in horizon development, from soils with no development to soils with well-developed argillic horizons. Soils that have little or no horizon development are usually found on the steeper slopes where erosional activity is greatest. Soils that have well-developed horizons are generally on gently sloping to moderately steep slopes where erosion is slight to moderate. The Redondo and Palon series are examples of soils found in the Jemez Mountains.

The interaction of all the facets of soil topography can account for wide soil variations over short distances.

Parent Material

A complex geologic history, ranging from formation of sedimentary rocks while great seas covered the earth, to volcanism and mountain forming processes provided a great many rock formations in the Sandoval County area, the constituents of which to a great extent, determined the chemical, mineralogical, and textural attributes of

the soils. Unless already unconsolidated, it is the decomposition and disintegration of these rocks which give rise to the *parent material* of soil.

Parent materials in the Sandoval County area fall into two broad categories. The first is material that, after weathering from rock, is not moved, but remains in place and is subject to soil-forming processes. The second category is unconsolidated rock-derived material that has been transported by water, wind, or by force of gravity.

Soils formed in non-transported materials have mineralogical, chemical and textural traits, which are directly related to the rock from which the material is derived. There are many examples of such soils in the Sandoval County area. The Bond, Hagerman, Skyvillage, Vessilla, and Sedgran series all contain high amounts of sand-sized quartz, inherited from their weathered sandstone parent material. Soils developed from weathered shale, such as Menefee, Sandoval, Camino, and Cucho series contain a great deal of silt- and clay-sized particles of various clay minerals, feldspars, and some quartz. Other soils formed in place from weathered rock material include the Sedgran and Osha series from weathered granite, the Redondo series from weathered tuff, and the Deama series from weathered limestone.

Soils formed in transported materials can have particles weathered from one rock type, a few or many types, depending on the method and distance of transport. *Colluvial* soils are formed in material moved by the force of gravity, which is transported a relatively short distance, down slopes. The Wauquie series formed in material moved down slopes after weathering from granite and shale. Alanos series formed in transported weathered tuff, and Palon series are formed in weathered rhyolite that has moved down slopes.

The second type of transported soil parent material is *eolian*, or wind blown sediments. These are materials that begin as particles on the surface of other soils, and end up comprising the entire depth of a new soil. The Pinavetes, Sheppard, and Royosa series, when found in upland areas, are derived from eolian sand.

Alluvium is the third type of transported soil parent material found in the Sandoval County area. It is material that has been moved and deposited by streams and rivers. Alluvium is rarely derived from one rock type, and its sediments generally are of diverse mineralogy diversified. Often alluvial sediments are sorted according to texture. It is deposited in layers, which are often well defined and contrasting in texture, color, and organic matter content. Alluvium is found throughout the Sandoval County area and its age varies greatly. Recent deposits of alluvium are found along the Rio Grande, Rio Puerco and their tributaries. Soils such as the Gilco, Aga, San Mateo, Peralta, Sparank, Jocity, and Sparham series are formed in recent alluvium and display well defined layering. Older alluvium, much of which was deposited by the ancestral Rio Grande and its tributaries is locally extensive in the survey area. Soil development processes have obliterated most evidence of layering in these soils. Some soils formed in old alluvium are Sheppard, Bamac, Espiritu, Cascajo, and Grieta series.

Many soils in the Sandoval County area are formed in more than one kind of parent material. Mountain soils, such as Laventana series, are often formed in a mantle of colluvium overlying in situ material weathered from bedrock. Soils atop basalt mesas, like Prieta series formed in in situ weathered basalt material mixed with eolian silt. Fragua series formed in eolian sands mixed with weathered sandstone, and sometimes have a cap of colluvial basalt particles. All soils in the area receive eolian deposits, in varying amounts. Often this is in minor yearly contributions of calcareous dust, which over many years can bring about a highly calcareous soil.

In addition to being the initial material on which soil processes act, the parent material partly affects which and how fast soil-transforming processes occur. This is affected mainly by the rate that the parent material weathers, its mineralogy and the particle size of its weathering products.

Time

The formation of parent material (the unconsolidated mineral and organic material which when exposed at the earth's surface give rise to soil) by the weathering of geologic deposits requires a great amount of *time*. In addition, soil processes require a period of time before bringing about soil properties significantly different from properties inherited from the parent material. Many soil processes are dependent on the previous operation of other, different soil processes.

Therefore, the amount of time that a soil has been in place is very important to its present character. In the Sandoval County area, soils in the Rio Grande and Rio Puerco valleys have been there a short time, resulting in soils like Gilco, Aga, Jocity, and Sparank series that have little evidence of operating soil processes except for the accumulation of a small amount of organic matter in the surface layer. These and other young soils resemble very closely the original parent material from which they were derived.

Older soils have developed features, such as argillic horizons, calcic horizons, cambic horizons, which indicate the relative length of time a soil has been in place, and which processes have been operational in the soil. The older a soil becomes, the less it resembles the parent material from which it was derived.

Recognition of horizons and features, with knowledge of how their accompanying processes affect soil fertility, soil bulk density and other properties give great insight into the value of soil for specific uses. All of the five soil-forming factors occur in wide variation throughout the Sandoval County area, resulting in a great variety of soils. These soils represent a great natural resource and provide for a multiplicity of land uses. Knowledge of soils and their formation can help the user to protect and use the resources wisely.

References

- American Society for Testing and Materials (ASTM). 1998. Standard classification of soils for engineering purposes. ASTM Standard D 2487.
- United States Department of Agriculture, Natural Resources Conservation Service. National engineering handbook. (Available in the State Office of the Natural Resources Conservation Service at 6200 Jefferson NE, Albuquerque, New Mexico.)
- United States Department of Agriculture, Natural Resources Conservation Service. 1996. National soil survey handbook, title 430-VI. Soil Survey Staff. (Available in the State Office of the Natural Resources Conservation Service at 6200 Jefferson NE, Albuquerque, New Mexico.)
- United States Department of Agriculture, Natural Resources Conservation Service. 1998. Keys to soil taxonomy. 8th edition. Soil Survey Staff.
- United States Department of Agriculture, Natural Resources Conservation Service. 1975. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 1st edition. Soil Survey Staff. U.S. Department of Agriculture Handbook 436.
- United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210.
- United States Department of Agriculture, Soil Conservation Service. 1981. Land resource regions and major land resource areas of the United States. U.S. Department of Agriculture Handbook 296.
- United States Department of Agriculture, Soil Conservation Service. 1993. Soil survey manual. Soil Survey Staff, U.S. Department of Agriculture Handbook 18.

Glossary

ABC soil. A soil having an A, a B, and a C horizon.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alkali (sodic) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Alluvial cone. The material washed down the sides of mountains and hills by ephemeral streams and deposited at the mouth of gorges in the form of a moderately steep, conical mass descending equally in all directions from the point of issue.

Alluvial fan. The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Arroyo. The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in alluvium.

Aspect. The direction in which a slope faces.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

- Badland.** Steep or very steep, commonly nonstony, barren land dissected by many intermittent drainage channels. Badland is most common in semiarid and arid regions where streams are entrenched in soft geologic material. Local relief generally ranges from 25 to 500 feet. Runoff potential is very high, and geologic erosion is active.
- Bajada.** A broad alluvial slope extending from the base of a mountain range out into a basin and formed by coalescence of separate alluvial fans.
- Base saturation.** The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.
- Base slope.** A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).
- Bedding planes.** Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.
- Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.
- Bedrock-controlled topography.** A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.
- Bench terrace.** A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.
- Blowout.** A shallow depression from which all or most of the soil material has been removed by the wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.
- Bottom land.** The normal flood plain of a stream, subject to flooding.
- Boulders.** Rock fragments larger than 2 feet (60 centimeters) in diameter.
- Breaks.** The steep and very steep broken land at the border of an upland summit that is dissected by ravines.
- Brush management.** Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.
- Butte.** An isolated small mountain or hill with steep or precipitous sides and a top variously flat, rounded, or pointed that may be a residual mass isolated by erosion or an exposed volcanic neck.
- Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.
- Caliche.** A more or less cemented deposit of calcium carbonate in soils of warm-temperate, subhumid to arid areas. Caliche occurs as soft, thin layers in the soil or as hard, thick beds directly beneath the solum, or it is exposed at the surface by erosion.
- California bearing ratio (CBR).** The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.
- Canopy.** The leafy crown of trees or shrubs. (See "Crown.")
- Canyon.** A long, deep, narrow, very steep sided valley with high, precipitous walls in an area of high local relief.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps. Very small, irregular terraces on steep hillsides, especially in pasture, formed by the trampling of cattle or the slippage of saturated soil.

Cement rock. Shaly limestone used in the manufacture of cement.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a “chanter.”

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common

compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conglomerate. A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coppice dune. A small dune of fine grained soil material stabilized around shrubs or small trees.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cuesta. A hill or ridge that has a gentle slope on one side and a steep slope on the other; specifically, an asymmetric, homoclinal ridge capped by resistant rock layers of slight or moderate dip.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Desert pavement. On a desert surface, a layer of gravel or larger fragments that was emplaced by upward movement of the underlying sediments or that remains after finer particles have been removed by running water or the wind.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a

consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained*, *somewhat excessively drained*, *well drained*, *moderately well drained*, *somewhat poorly drained*, *poorly drained*, and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface. Runoff, or surface flow of water, from an area.

Draw. A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Extrusive rock. Igneous rock derived from deep-seated molten matter (magma) emplaced on the earth's surface.

Fan remnant. A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.

Fine textured soil. Sandy clay, silty clay, or clay.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Foothill. A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gilgai. Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Head slope. A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluv. An elevated area between two drainageways that sheds water to those drainageways.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements.

Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat}. Saturated hydraulic conductivity. (See “Permeability.”)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $\frac{1}{3}$ - or $\frac{1}{10}$ -bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mesa. A broad, nearly flat topped and commonly isolated upland mass characterized by summit widths that are more than the heights of bounding erosional scarps.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Major Land Resource Area. These are geographically associated land resource units. Identification of these large areas is important in statewide agricultural planning and has value in interstate, regional, and national planning.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size.

Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

Mountain. A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

Mudstone. Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See “Reaction, soil.”)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nose slope. A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan*, *fragipan*, *claypan*, *plowpan*, and *traffic pan*.

Paleosols. A soil that formed on a landscape in the past with distinctive morphological features resulting from a soil-forming environment that no longer exists at the site.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Extremely slow	0.0 to 0.01 inch
Very slow	0.01 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See "Reaction, soil.")

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plateau. An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

Playa. The generally dry and nearly level lake plain that occupies the lowest parts of closed depressional areas, such as those on intermontane basin floors.

Temporary flooding occurs primarily in response to precipitation and runoff.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Potential native plant community. See “Climax plant community.”

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Salinity. The degree to which a soil is affected by soluble salts. Salinity is expressed as an electrical conductivity (EC) of a saturation extract. The solution resistance is measured in mmhos/cm. The degrees of salinity and their respective ratios are:

Non saline	0-2
Very slightly saline	2-4
Slightly saline	4-8
Moderately saline	8-16
Strongly saline	>16

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saprolite. Unconsolidated residual material underlying the soil and grading to hard bedrock below.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Second bottom. The first terrace above the normal flood plain (or first bottom) of a river.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shrink-Swell. Soil volume changes due to increases or decreases in moisture content. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $\frac{1}{3}$ - or $\frac{1}{10}$ -bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a

fraction, the resulting value is COLE, coefficient of linear extensibility. The Shrink-swell classes are defined as follows:

Class	LEP
Low	<3
Moderate	3-6
High	6-9
Very High	>9

Shoulder. The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A depression in the landscape where limestone has been dissolved.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slick spot. A small area of soil having a puddled, crusted, or smooth surface and an excess of exchangeable sodium. The soil generally is silty or clayey, is slippery when wet, and is low in productivity.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Sodic (alkali) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodicity. The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^+ to $\text{Ca}^{++} + \text{Mg}^{++}$. The degrees of sodicity and their respective ratios are:

Slight	less than 13:1
Moderate	13-30:1
Strong	more than 30:1

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of

climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus. Fragments of rock and other soil material accumulated by gravity at the foot of cliffs or steep slopes.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay*, and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tuff. A compacted deposit that is 50 percent or more volcanic ash and dust.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and precipitation

(Recorded in the period 1971-2000 at Cuba, NM #2241)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
	<u>°F</u>	<u>°F</u>	<u>°F</u>	<u>°F</u>	<u>°F</u>	<u>Units</u>	<u>In.</u>	<u>In.</u>	<u>In.</u>		<u>In.</u>
January-----	42.0	7.7	24.8	61	-24	1	0.82	0.16	1.44	2	8.5
February----	46.0	13.7	29.8	63	-19	6	0.50	0.10	0.87	2	5.1
March-----	53.5	20.8	37.2	71	-2	42	0.90	0.22	1.53	2	3.9
April-----	61.6	25.8	43.7	77	6	148	0.63	0.08	1.14	2	1.6
May-----	70.9	33.7	52.3	85	18	374	0.87	0.18	1.47	2	0.0
June-----	81.4	40.7	61.1	94	25	631	0.80	0.14	1.36	2	0.0
July-----	85.1	48.7	66.9	95	34	832	1.91	0.94	2.85	5	0.0
August-----	82.7	48.3	65.5	93	35	773	2.20	1.36	2.94	6	0.0
September---	76.2	39.7	57.9	89	21	538	1.41	0.48	2.29	3	0.0
October-----	65.7	27.4	46.5	80	8	222	1.10	0.38	1.76	3	0.6
November----	51.9	17.3	34.6	71	-7	26	0.89	0.16	1.61	2	2.7
December----	44.1	10.2	27.1	62	-15	1	0.53	0.05	0.91	1	5.2
Yearly:											
Average---	63.4	27.8	45.6	---	---	---	---	---	---	---	---
Extreme---	100	-38	---	96	-25	---	---	---	---	---	---
Total-----	---	---	---	---	---	3594	12.57	9.48	14.18	32	27.6

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F.)

Table 1.--Temperature and precipitation--continued

(Recorded in the period 1971-2000 at Jemez Springs, NM #4369)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
	<u>°F</u>	<u>°F</u>	<u>°F</u>	<u>°F</u>	<u>°F</u>	<u>Units</u>	<u>In.</u>	<u>In.</u>	<u>In.</u>		<u>In.</u>
January-----	46.2	19.8	33.0	63	-2	13	1.25	0.36	2.07	3	9.5
February----	51.7	23.9	37.8	68	3	46	0.88	0.34	1.46	2	6.3
March-----	58.3	28.9	43.6	74	12	146	1.26	0.46	1.99	3	4.5
April-----	66.8	34.5	50.6	81	19	326	0.97	0.18	1.72	2	2.3
May-----	75.4	42.1	58.8	89	29	583	1.14	0.40	1.89	3	0.2
June-----	86.0	50.5	68.3	98	37	842	1.01	0.28	1.70	2	0.0
July-----	88.5	55.6	72.0	98	46	984	2.47	1.63	3.24	6	0.0
August-----	85.4	54.4	69.9	95	45	923	2.98	1.93	3.88	7	0.0
September---	79.5	47.8	63.7	91	32	707	1.94	0.92	2.79	4	0.0
October-----	69.1	37.9	53.5	84	21	422	1.53	0.21	2.89	3	0.3
November----	55.4	27.6	41.5	73	8	114	1.25	0.46	1.95	3	2.9
December----	47.1	20.9	34.0	63	0	20	0.95	0.17	1.63	2	6.4
Yearly:											
Average---	67.5	37.0	52.2	---	---	---	---	---	---	---	---
Extreme---	101	-18	---	99	-5	---	---	---	---	---	---
Total-----	---	---	---	---	---	5124	17.63	13.03	20.72	40	32.5

Table 1.--Temperature and precipitation--continued

(Recorded in the period 1971-2000 at Torreon Navajo Mission, NM #9031)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
	<u>°F</u>	<u>°F</u>	<u>°F</u>	<u>°F</u>	<u>°F</u>	<u>Units</u>	<u>In.</u>	<u>In.</u>	<u>In.</u>		<u>In.</u>
January-----	42.0	15.3	28.6	60	-10	4	0.61	0.19	0.98	2	5.7
February----	47.9	20.8	34.4	65	-3	21	0.43	0.19	0.63	1	3.7
March-----	57.1	25.6	41.3	75	9	107	0.73	0.20	1.13	2	2.4
April-----	65.9	31.3	48.6	82	14	275	0.63	0.08	1.13	1	1.3
May-----	75.3	40.0	57.6	89	23	547	0.78	0.09	1.51	2	0.4
June-----	86.3	49.0	67.6	98	32	814	0.59	0.05	1.05	1	0.0
July-----	88.9	55.5	72.2	99	38	993	1.56	0.78	2.27	4	0.0
August-----	85.9	54.4	70.1	96	42	932	1.86	0.85	2.77	5	0.0
September---	79.1	46.8	63.0	92	30	685	1.29	0.48	2.11	3	0.0
October-----	67.5	35.1	51.3	83	15	359	1.07	0.19	1.83	3	0.6
November----	52.5	23.7	38.1	71	2	67	0.78	0.26	1.23	2	2.3
December----	43.3	16.2	29.8	61	-6	4	0.47	0.06	0.83	1	4.1
Yearly:											
Average---	66.0	34.5	50.2	---	---	---	---	---	---	---	---
Extreme---	101	-33	---	99	-14	---	---	---	---	---	---
Total-----	---	---	---	---	---	4808	10.80	8.63	12.87	27	20.5

Table 1.--Temperature and precipitation--continued

(Recorded in the period 1971-2000 at Wolf Canyon, NM #9820)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
	oF	oF	oF	oF	oF	Units	In.	In.	In.		In.
January----	37.5	7.6	22.5	55	-18	0	2.03	0.59	3.52	5	26.6
February----	40.2	11.1	25.7	57	-15	0	1.57	0.78	2.33	4	21.8
March-----	45.7	17.3	31.5	62	-5	6	2.13	0.80	3.44	5	24.8
April-----	53.7	22.7	38.2	70	3	50	1.39	0.36	2.40	3	13.0
May-----	62.9	28.9	45.9	77	16	194	1.40	0.49	2.30	4	3.3
June-----	73.2	35.1	54.2	85	22	421	1.21	0.23	2.00	3	0.0
July-----	75.7	41.7	58.7	86	30	577	3.17	1.97	4.37	8	0.0
August-----	72.8	41.6	57.2	82	31	527	3.85	2.47	5.02	8	0.0
September---	67.4	35.0	51.2	80	20	336	2.12	1.10	3.02	4	0.2
October----	57.6	25.6	41.6	73	9	101	2.03	0.76	3.14	4	4.5
November----	44.8	16.1	30.5	64	-9	5	1.83	0.81	2.77	4	14.7
December----	38.4	9.2	23.8	56	-15	0	1.55	0.57	2.32	4	19.1
Yearly:											
Average---	55.8	24.3	40.1	---	---	---	---	---	---	---	---
Extreme---	89	-36	---	86	-21	---	---	---	---	---	---
Total-----	---	---	---	---	---	2218	24.28	20.06	28.03	56	128.1

Table 2.--Freeze dates in spring and fall
(Recorded in the period 1971-2000 at Cuba, NM #2241)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	May 31	June 18	June 29
2 years in 10 later than--	May 25	June 12	June 25
5 years in 10 later than--	May 13	June 2	June 15
First freezing temperature in fall:			
1 year in 10 earlier than--	September 19	September 14	August 30
2 years in 10 earlier than--	September 24	September 18	September 4
5 years in 10 earlier than--	October 3	September 26	September 15

Table 2.--Freeze dates in spring and fall--continued
 (Recorded in the period 1971-2000 at Jemez Springs,
 NM #4369)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
1 year in 10 later than--	April 20	May 6	May 19
2 years in 10 later than--	April 15	April 30	May 15
5 years in 10 later than--	April 5	April 19	May 6
First freezing temperature in fall:			
1 year in 10 earlier than--	October 21	October 4	September 26
2 years in 10 earlier than--	October 26	October 10	October 1
5 years in 10 earlier than--	November 5	October 22	October 10

Table 2.--Freeze dates in spring and fall--continued
 (Recorded in the period 1971-2000 at Torreon Navajo Mission,
 NM #9031)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	May 13	May 19	June 4
2 years in 10 later than--	May 6	May 13	May 29
5 years in 10 later than--	April 23	May 4	May 18
First freezing temperature in fall:			
1 year in 10 earlier than--	October 8	September 28	September 20
2 years in 10 earlier than--	October 14	October 4	September 25
5 years in 10 earlier than--	October 24	October 15	October 5

Table 2.--Freeze dates in spring and fall--continued
 (Recorded in the period 1971-2000 at Wolf Canyon, NM #9820)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	June 14	June 28	July 10
2 years in 10 later than--	June 7	June 22	July 5
5 years in 10 later than--	May 24	June 12	June 26
First freezing temperature in fall:			
1 year in 10 earlier than--	September 13	September 5	August 15
2 years in 10 earlier than--	September 19	September 10	August 22
5 years in 10 earlier than--	September 29	September 18	September 3

Table 3.--Growing season

(Recorded for the period 1971-2000 at Cuba, NM
#2241)

<u>Probability</u>	Daily minimum temperature		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	<u>Days</u>	<u>Days</u>	<u>Days</u>
9 years in 10	117	97	70
8 years in 10	125	103	77
5 years in 10	141	116	92
2 years in 10	156	128	106
1 year in 10	165	134	114

Table 3.--Growing season--continued

(Recorded for the period 1971-2000 at Jemez Springs,
NM #4369)

<u>Probability</u>	Daily minimum temperature		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	<u>Days</u>	<u>Days</u>	<u>Days</u>
9 years in 10	187	153	136
8 years in 10	196	164	143
5 years in 10	213	186	156
2 years in 10	230	207	169
1 year in 10	239	218	176

Table 3.--Growing season--continued
 (Recorded for the period 1971-2000 at Torreon
 Navajo Mission, NM #9031)

<u>Probability</u>	Daily minimum temperature		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	<u>Days</u>	<u>Days</u>	<u>Days</u>
9 years in 10	159	139	117
8 years in 10	167	147	124
5 years in 10	183	163	139
2 years in 10	199	180	154
1 year in 10	208	188	162

Table 3.--Growing season--continued
 (Recorded for the period 1971-2000 at Wolf Canyon,
 NM #9820)

<u>Probability</u>	Daily minimum temperature		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	<u>Days</u>	<u>Days</u>	<u>Days</u>
9 years in 10	97	76	44
8 years in 10	107	83	52
5 years in 10	127	98	69
2 years in 10	146	112	86
1 year in 10	157	120	95

Table 4.--Acreage and proportionate extent of the soils

Map symbol	Soil name	Los Alamos County	Rio Arriba County	Sandoval County	Total	
					Area	Extent
		<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Pct.</u>
1	Silver-Clovis loams, 1 to 7 percent slopes---	---	---	10,489	10,489	0.7
2	Clovis-Prieta-Silver association, 3 to 15 percent slopes-----	---	---	9,027	9,027	0.6
3	Montecito-Orejas complex, 1 to 7 percent slopes-----	---	---	5,000	5,000	0.3
4	Montecito complex, 3 to 30 percent slopes----	---	---	22,532	22,532	1.5
10	Trail silty clay loam, 0 to 1 percent slopes----	---	---	757	757	*
11	Trail fine sandy loam, 0 to 1 percent slopes----	---	---	1,994	1,994	0.1
13	Sandoval-Querencia association, 2 to 7 percent slopes-----	---	---	11,436	11,436	0.8
15	Camino-Sandoval complex, 1 to 8 percent slopes-----	---	---	17,038	17,038	1.1
16	Rock outcrop-Prieta complex, 3 to 15 percent slopes-----	1,039	---	155	1,194	*
17	Vessilla-Menefee-Rock outcrop complex, 3 to 15 percent slopes-----	---	---	30,571	30,571	2.0
18	Sparham clay, 0 to 3 percent slopes-----	---	---	2,927	2,927	0.2
20	Gilco clay loam, 0 to 1 percent slopes-----	---	---	1,111	1,111	*
21	Rock outcrop-Hackroy complex, 1 to 8 percent slopes-----	2,907	---	8,060	10,967	0.7
22	Aga silty clay loam, 0 to 1 percent slopes----	---	---	531	531	*
23	Hickman clay loam, 1 to 3 percent slopes-----	---	---	3,263	3,263	0.2
24	Orlie-Sparham association, 0 to 5 percent slopes-----	---	---	22,785	22,785	1.5
25	Gilco loam, 0 to 1 percent slopes-----	---	---	3,601	3,601	0.2
26	Orlie loam, 0 to 8 percent slopes-----	---	---	4,577	4,577	0.3
27	Aga loam, 0 to 1 percent slopes-----	---	---	1,950	1,950	0.1
29	Trail loamy sand, 0 to 1 percent slopes-----	---	---	925	925	*
31	Riverwash-----	---	---	9,415	9,415	0.6
33	Pits-----	---	---	1,310	1,310	*
34	Ildefonso-Witt association, 1 to 8 percent slopes-----	---	---	10,220	10,220	0.7
41	Dune land-----	---	---	792	792	*
47	Cascajo very gravelly sandy loam, 12 to 30 percent slopes-----	---	---	9,700	9,700	0.6
51	Sparham clay loam, 0 to 1 percent slopes----	---	---	871	871	*
52	Totavi loamy sand, 0 to 5 percent slopes-----	2,422	---	2,885	5,307	0.4
53	Witt-Harvey association, 1 to 7 percent slopes-----	---	---	18,540	18,540	1.2
54	Harvey-Cascajo association, 5 to 15 percent slopes-----	---	---	33,134	33,134	2.2
55	La Fonda loam, 1 to 5 percent slopes-----	---	---	4,734	4,734	0.3
56	Ildefonso cobbly loam, 15 to 35 percent slopes-----	---	---	12,889	12,889	0.9
57	Badland-----	---	32	17,590	17,622	1.2
58	Deama-Elpedro association, 5 to 30 percent slopes-----	---	---	2,525	2,525	0.2

Table 4.--Acreage and proportionate extent of the soils--continued

Map symbol	Soil name	Los Alamos County	Rio Arriba County	Sandoval County	Total	
					Area	Extent
		<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Pct.</u>
59	Harvey-Ildefonso-La Fonda association, 3 to 15 percent slopes-----	---	---	7,884	7,884	0.5
63	Placitas gravelly loam, 8 to 40 percent slopes-----	---	---	8,545	8,545	0.6
64	Skyvillage-Ildefonso association, 8 to 40 percent slopes-----	---	---	3,604	3,604	0.2
65	Ildefonso-Harvey association, 10 to 35 percent slopes-----	---	---	12,168	12,168	0.8
66	Zia sandy loam, 3 to 6 percent slopes-----	---	---	16,387	16,387	1.1
67	Sandoval-Poley complex, 3 to 30 percent slopes-----	---	---	24,938	24,938	1.7
68	Penistaja-Querencia complex, 2 to 7 percent slopes-----	---	---	10,942	10,942	0.7
71	Palon cobbly sandy loam, 15 to 35 percent slopes-----	---	324	3,041	3,365	0.2
72	Palon very cobbly sandy loam, 35 to 65 percent slopes-----	---	---	6,267	6,267	0.4
74	Origo-Pavo association, 5 to 35 percent slopes-----	---	41	7,713	7,754	0.5
75	Origo very cobbly sandy loam, 35 to 65 percent slopes-----	---	112	5,576	5,688	0.4
82	Calaveras loam, 15 to 35 percent slopes-----	782	---	6,872	7,654	0.5
83	Calaveras-Rubble land association, 35 to 60 percent slopes-----	683	616	9,769	11,068	0.7
85	Redondo coarse sandy loam, 15 to 35 percent slopes-----	---	1,366	5,260	6,626	0.4
86	Redondo cobbly coarse sandy loam, 35 to 80 percent slopes-----	---	583	9,245	9,828	0.7
87	Redondo-Rubble land association, 35 to 80 percent slopes-----	---	---	6,569	6,569	0.4
88	Totavi-Jemez-Rock outcrop association, 0 to 15 percent slopes-----	---	---	3,037	3,037	0.2
91	Zia sandy loam, 1 to 3 percent slopes-----	---	---	2,157	2,157	0.1
92	Galisteo silty clay loam, moderately saline, sodic, 0 to 1 percent slopes-----	---	---	611	611	*
93	Zia loamy sand, 1 to 4 percent slopes-----	---	---	449	449	*
95	El Rancho loam, 0 to 2 percent slopes-----	---	---	1,025	1,025	*
97	El Rancho clay loam, 0 to 2 percent slopes---	---	---	726	726	*
100	Orejas-Rock outcrop complex, 15 to 40 percent slopes-----	---	---	8,199	8,199	0.5
101	Blancot-Lybrook association, 0 to 8 percent slopes-----	---	---	4,207	4,207	0.3
102	Sparham clay loam, 1 to 3 percent slopes-----	---	---	3,955	3,955	0.3
104	Cochiti-Montecito association, 1 to 30 percent slopes-----	---	---	8,422	8,422	0.6

Table 4.--Acreage and proportionate extent of the soils--continued

Map symbol	Soil name	Los Alamos County	Rio Arriba County	Sandoval County	Total	
					Area	Extent
		<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Pct.</u>
105	Badland-Menefee complex, 15 to 35 percent slopes-----	---	---	3,210	3,210	0.2
106	Stumble association, 1 to 40 percent slopes--	---	---	4,110	4,110	0.3
108	Embudo gravelly sandy loam, 1 to 15 percent slopes-----	---	---	2,897	2,897	0.2
109	Embudo-Tijeras association, 1 to 9 percent slopes-----	---	---	1,582	1,582	0.1
110	Rock outcrop-Saido complex, 5 to 40 percent slopes-----	---	---	12,327	12,327	0.8
111	Rock outcrop-Zia complex, 8 to 25 percent slopes-----	---	---	26,249	26,249	1.8
112	Tijeras gravelly fine sandy loam, 1 to 5 percent slopes-----	---	---	1,396	1,396	*
114	Zia-San Mateo association, 0 to 9 percent slopes-----	---	---	8,577	8,577	0.6
120	Pinavetes loamy sand, 3 to 5 percent slopes--	---	---	24,241	24,241	1.6
124	Rock outcrop-----	6,717	---	24,005	30,722	2.1
129	Menefee clay loam, 5 to 35 percent slopes----	---	---	9,783	9,783	0.7
130	Pinavetes-Galisteo, moderately saline, sodic, association, 0 to 5 percent slopes-----	---	---	3,355	3,355	0.2
142	Grieta fine sandy loam, 1 to 4 percent slopes	---	---	22,273	22,273	1.5
143	Clovis fine sandy loam, 1 to 4 percent slopes	---	---	25,914	25,914	1.7
145	Grieta-Sheppard loamy fine sands, 2 to 9 percent slopes-----	---	---	23,425	23,425	1.6
146	Sedmar loamy sand, 1 to 15 percent slopes----	---	---	4,934	4,934	0.3
150	Doakum-Betonnies fine sandy loams, 0 to 8 percent slopes-----	---	---	18,541	18,541	1.2
162	Hackroy-Nyjack association, 1 to 5 percent slopes-----	1,442	---	1,983	3,425	0.2
163	Jemez loam, 1 to 15 percent slopes-----	1,143	---	---	1,143	*
170	San Mateo loam, 0 to 3 percent slopes-----	---	---	21,186	21,186	1.4
180	Councilor-Eslendo-Mesquin complex, 5 to 30 percent slopes-----	---	---	7,491	7,491	0.5
183	Sheppard loamy fine sand, 8 to 15 percent slopes-----	---	---	8,866	8,866	0.6
185	Frijoles very fine sandy loam, 1 to 8 percent slopes-----	877	---	1,440	2,317	0.2
190	Zia-Skyvillage-Rock outcrop complex, 5 to 40 percent slopes-----	---	---	64,749	64,749	4.3
191	Sheppard loamy fine sand, 3 to 8 percent slopes-----	---	---	23,005	23,005	1.5
200	Sedillo very cobbly sandy loam, 5 to 25 percent slopes, stony-----	---	---	1,511	1,511	0.1
201	Rock outcrop-Sedgran association, 25 to 55 percent slopes-----	---	---	1,035	1,035	*
206	Pinitos loam, 1 to 15 percent slopes-----	---	---	10,400	10,400	0.7

Table 4.--Acreage and proportionate extent of the soils--continued

Map symbol	Soil name	Los Alamos County	Rio Arriba County	Sandoval County	Total	
					Area	Extent
		<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Pct.</u>
207	Penistaja-Zia complex, 1 to 8 percent slopes-	---	---	3,665	3,665	0.2
208	Sedillo very gravelly fine sandy loam, 25 to 55 percent slopes-----	---	---	12,969	12,969	0.9
210	Ildefonso very stony loam, 25 to 70 percent slopes, rubbly-----	---	---	5,794	5,794	0.4
211	Zia-Clovis association, 2 to 10 percent slopes-----	---	---	35,490	35,490	2.4
213	Pinavetes-Rock outcrop complex, 15 to 35 percent slopes-----	---	---	31,747	31,747	2.1
215	Ess-Rock outcrop complex, 5 to 45 percent slopes-----	---	---	1,867	1,867	0.1
217	Witt loam, 1 to 8 percent slopes-----	---	---	9,158	9,158	0.6
218	Ildefonso very cobbly loam, 1 to 15 percent slopes-----	---	---	10,976	10,976	0.7
220	Rock outcrop-Vessilla-Menefee complex, 30 to 40 percent slopes-----	---	---	2,390	2,390	0.2
226	Galisteo loam, moderately saline, sodic, 1 to 3 percent slopes-----	---	---	3,529	3,529	0.2
227	Hagerman-Bond association, 1 to 8 percent slopes-----	---	---	2,585	2,585	0.2
228	Winona very channery fine sandy loam, 8 to 25 percent slopes-----	---	---	905	905	*
230	Skyvillage-Sandoval-Rock outcrop complex, 3 to 20 percent slopes-----	---	---	20,241	20,241	1.4
231	Querencia loam, 1 to 8 percent slopes-----	---	---	22,450	22,450	1.5
234	Querencia-Zia complex, 2 to 8 percent slopes-	---	---	22,125	22,125	1.5
235	Sandoval fine sandy loam, 3 to 15 percent slopes-----	---	---	56,947	56,947	3.8
236	Sparank clay loam, moderately saline, sodic, 0 to 1 percent slopes-----	---	---	18,728	18,728	1.3
237	Sparank silty clay loam, 0 to 3 percent slopes-----	---	---	12,797	12,797	0.9
240	Penistaja-Hagerman association, 1 to 5 percent slopes-----	1,220	---	13,547	14,767	1.0
250	Pinavetes loamy fine sand, 5 to 15 percent slopes-----	---	---	4,970	4,970	0.3
262	Pastura loam, 1 to 4 percent slopes-----	---	---	800	800	*
270	Blancot-Councilor-Tsosie association, 0 to 5 percent slopes-----	---	---	59,888	59,888	4.0
281	Carjo loam, 1 to 9 percent slopes-----	4,140	---	---	4,140	0.3
282	Total very fine sandy loam, 3 to 8 percent slopes-----	620	---	2,017	2,637	0.2
283	Mirand-Alanos complex, 5 to 40 percent slopes	725	---	4,819	5,544	0.4
290	Alanos-Rock outcrop complex, 20 to 40 percent slopes-----	196	---	---	196	*
300	Waumac-Bamac association, 1 to 7 percent slopes-----	---	---	11,926	11,926	0.8

Table 4.--Acreage and proportionate extent of the soils--continued

Map symbol	Soil name	Los Alamos County	Rio Arriba County	Sandoval County	Total	
					Area	Extent
		<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Pct.</u>
301	Vastine-Jarola silt loams, 0 to 5 percent slopes-----	---	---	5,650	5,650	0.4
302	Tranquilar-Jarmillo complex, 1 to 8 percent slopes-----	---	---	7,970	7,970	0.5
304	Cosey-Jarmillo association, 2 to 20 percent slopes-----	---	---	8,805	8,805	0.6
307	Flugle-Waumac complex, 1 to 8 percent slopes----	---	---	10,085	10,085	0.7
308	Cajete gravelly loam, 0 to 8 percent slopes----	---	---	1,652	1,652	0.1
311	Cosey-Tranquilar-Calaveras association, 5 to 20 percent slopes-----	---	---	4,086	4,086	0.3
312	Royosa sand, 1 to 8 percent slopes-----	---	---	10,273	10,273	0.7
314	Fragua-Waumac-Royosa complex, 1 to 8 percent slopes-----	---	---	14,200	14,200	0.9
317	Elpedro loam, 1 to 8 percent slopes-----	---	---	9,095	9,095	0.6
319	Bamac-Rock outcrop complex, 15 to 55 percent slopes-----	---	---	7,489	7,489	0.5
320	Sparham silt loam, 0 to 3 percent slopes-----	---	---	4,202	4,202	0.3
321	Waumac-Royosa association, 1 to 15 percent slopes-----	---	---	4,265	4,265	0.3
322	Fragua very cobbly fine sandy loam, 15 to 70 percent slopes-----	---	---	11,873	11,873	0.8
324	Rock outcrop-Atarque-Menefee complex, 5 to 25 percent slopes-----	---	---	7,190	7,190	0.5
325	Rock outcrop-Vessilla-Espiritu complex, 25 to 65 percent slopes-----	---	---	3,724	3,724	0.2
342	Waumac-Vessilla-Rock outcrop complex, 5 to 40 percent slopes-----	---	---	3,887	3,887	0.3
345	Espiritu-Bamac association, 15 to 55 percent slopes-----	---	---	20,283	20,283	1.4
346	Espiritu, cobbly-Bamac association, 15 to 40 percent slopes-----	---	---	8,824	8,824	0.6
348	Wauquie-Rock outcrop complex, 25 to 45 percent slopes-----	---	---	5,575	5,575	0.4
353	Cochiti-Espiritu association, 15 to 55 percent slopes-----	---	---	11,691	11,691	0.8
354	Waumac Variant very gravelly sandy loam, 1 to 15 percent slopes-----	---	---	646	646	*
358	Deama-Elpedro-Rock outcrop complex, 10 to 55 percent slopes-----	---	---	5,329	5,329	0.4
396	Atarque-Menefee-Rock outcrop complex, 25 to 45 percent slopes-----	---	---	5,797	5,797	0.4
397	Rock outcrop-Cucho-Vessilla complex, 25 to 70 percent slopes-----	---	---	3,837	3,837	0.3
398	Espiritu-Cucho association, 8 to 55 percent slopes-----	---	---	2,342	2,342	0.2
399	Cucho-Teco complex, 8 to 40 percent slopes----	---	---	2,921	2,921	0.2
405	Charo complex, 1 to 5 percent slopes-----	---	---	1,785	1,785	0.1

Table 4.--Acreage and proportionate extent of the soils--continued

Map symbol	Soil name	Los Alamos County	Rio Arriba County	Sandoval County	Total	
					Area	Extent
		<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Pct.</u>
409	Santa Fe very gravelly sandy loam, 15 to 40 percent slopes, stony-----	---	---	3,447	3,447	0.2
410	Zia loam, 0 to 1 percent slopes-----	---	---	1,082	1,082	*
414	Wauquie very gravelly fine sandy loam, 8 to 25 percent slopes-----	---	---	3,191	3,191	0.2
417	Jocity loam, 0 to 2 percent slopes-----	---	---	994	994	*
418	Jocity clay loam, 0 to 2 percent slopes-----	---	---	2,213	2,213	0.1
419	Santa Fe-Wauquie-Rock outcrop complex, 25 to 70 percent slopes-----	---	---	4,684	4,684	0.3
420	Pinavetes loamy sand, 1 to 3 percent slopes--	---	---	570	570	*
421	Gilco loam, moderately saline, sodic, 0 to 1 percent slopes-----	---	---	277	277	*
422	Vessilla-Menefee-Orlie association, 0 to 30 percent slopes-----	---	77	26,463	26,540	1.8
423	Gilco loam, 1 to 4 percent slopes-----	---	---	1,446	1,446	*
426	Aga loam, moderately saline, sodic, 0 to 1 percent slopes-----	---	---	239	239	*
427	Aga loam, 1 to 3 percent slopes-----	---	---	733	733	*
428	Aga loam, moderately saline, sodic, 1 to 3 percent slopes-----	---	---	527	527	*
430	Trail loam, 1 to 3 percent slopes-----	---	---	929	929	*
431	Trail loamy sand, 1 to 4 percent slopes-----	---	---	1,401	1,401	*
433	Peralta loam, 0 to 1 percent slopes-----	---	---	745	745	*
434	Peralta loam, 1 to 3 percent slopes-----	---	---	503	503	*
437	Peralta loam, moderately saline, sodic, 1 to 3 percent slopes-----	---	---	1,689	1,689	0.1
500	Rock outcrop-Osha-Rubble land complex, 40 to 70 percent slopes-----	---	---	2,686	2,686	0.2
503	Cajete-Cypher association, 8 to 50 percent slopes-----	1,668	---	4,046	5,714	0.4
504	Orejas-Guaje complex, 1 to 15 percent slopes--	---	---	8,858	8,858	0.6
600	Rock outcrop-Cypher complex, 35 to 60 percent slopes-----	---	---	2,045	2,045	0.1
601	Laventana gravelly sandy loam, 3 to 15 percent slopes-----	---	---	587	587	*
603	Laventana-Mirand very cobbly loams, 15 to 55 percent slopes-----	---	---	4,185	4,185	0.3
604	Cypher-Mirand complex, 15 to 55 percent slopes-----	---	---	1,523	1,523	0.1
608	Osha association, 3 to 55 percent slopes-----	---	---	3,909	3,909	0.3
823	Gilco loam, 1 to 4 percent slopes, unprotected-----	---	---	1,222	1,222	*
827	Aga loam, 1 to 3 percent slopes, unprotected--	---	---	1,445	1,445	*
830	Trail loam, 1 to 3 percent slopes, unprotected-----	---	---	857	857	*
831	Trail loamy sand, 1 to 3 percent slopes, unprotected-----	---	---	1,905	1,905	0.1

Table 4.--Acreage and proportionate extent of the soils--continued

Map symbol	Soil name	Los Alamos County	Rio Arriba County	Sandoval County	Total	
					Area	Extent
		<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Pct.</u>
835	Peralta loam, 1 to 3 percent slopes, unprotected-----	---	---	2,205	2,205	0.1
842	Peralta clay loam, moderately saline, sodic, 0 to 2 percent slopes, unprotected-----	---	---	511	511	*
850	Water-----	4	---	3,392	3,396	0.2
DAM	Dam-----	---	---	466	466	*
	Total-----	26,585	3,151	1,466,168	1,495,904	100.0

* Less than 0.1 percent.

Table 5.--Irrigated and nonirrigated yields by map unit component

(Yields in the "N" columns are for nonirrigated areas; those in the "I" columns are for irrigated areas. Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Land capability		Alfalfa hay		Sweet corn		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
1:								
Silver-----	6e	4e	---	---	---	---	---	---
Clovis-----	6c	---	---	---	---	---	---	---
2:								
Clovis-----	6c	---	---	---	---	---	---	---
Prieta-----	7s	---	---	---	---	---	---	---
Silver-----	6e	---	---	---	---	---	---	---
3:								
Montecito-----	6e	---	---	---	---	---	---	---
Orejas-----	7s	---	---	---	---	---	---	---
4:								
Montecito-----	6e	---	---	---	---	---	---	---
Montecito, bouldery----	7s	---	---	---	---	---	---	---
10:								
Trail-----	7s	4e	---	6.00	---	---	---	12.00
11:								
Trail-----	7s	4e	---	6.00	---	---	---	12.00
13:								
Sandoval-----	7s	---	---	---	---	---	---	---
Querencia-----	6c	---	---	---	---	---	---	---
15:								
Camino-----	6c	---	---	---	---	---	---	---
Sandoval-----	7s	---	---	---	---	---	---	---
16:								
Rock outcrop-----	8s	---	---	---	---	---	---	---

Table 5.--Irrigated and nonirrigated yields by map unit component

Map symbol and soil name	Land capability		Alfalfa hay		Sweet corn		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
16: Prieta-----	7s	---	---	---	---	---	---	---
17: Vessilla-----	7s	---	---	---	---	---	---	---
Menefee-----	7s	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---
18: Sparham-----	6c	3s	---	1.50	---	---	---	---
20: Gilco-----	7c	2e	---	7.50	---	6.00	---	15.00
21: Rock outcrop-----	8s	---	---	---	---	---	---	---
Hackroy-----	7s	---	---	---	---	---	---	---
22: Aga-----	7c	2s	---	7.00	---	---	---	14.00
23: Hickman-----	6c	3e	---	2.00	---	---	---	6.00
24: Orlie-----	6c	---	---	---	---	---	---	---
Sparham-----	6c	3s	---	1.50	---	---	---	---
25: Gilco-----	7e	2e	---	7.50	---	6.00	---	15.00
26: Orlie-----	6c	---	---	---	---	---	---	---
27: Aga-----	7c	2s	---	7.00	---	---	---	14.00
29: Trail-----	7s	4s	---	4.00	---	---	---	8.00
31: Riverwash-----	8w	---	---	---	---	---	---	---

Table 5.--Irrigated and nonirrigated yields by map unit component

Map symbol and soil name	Land capability		Alfalfa hay		Sweet corn		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
33: Pits-----	8s	---	---	---	---	---	---	---
34: Ildefonso-----	7s	---	---	---	---	---	---	---
Witt-----	6e	---	---	---	---	---	---	---
41: Dune land-----	8e	---	---	---	---	---	---	---
47: Cascajo-----	7e	---	---	---	---	---	---	---
51: Sparham-----	6c	3e	---	3.50	---	3.00	---	9.00
52: Totavi-----	4s	---	---	---	---	---	---	---
53: Witt-----	6e	---	---	---	---	---	---	---
Harvey-----	7e	---	---	---	---	---	---	---
54: Harvey-----	7e	---	---	---	---	---	---	---
Cascajo-----	7s	---	---	---	---	---	---	---
55: La Fonda-----	6c	---	---	---	---	---	---	---
56: Ildefonso-----	7e	---	---	---	---	---	---	---
57: Badland-----	8	---	---	---	---	---	---	---
58: Deama-----	7e	---	---	---	---	---	---	---
Elpedro-----	6e	---	---	---	---	---	---	---
59: Harvey-----	7e	---	---	---	---	---	---	---

Table 5.--Irrigated and nonirrigated yields by map unit component

Map symbol and soil name	Land capability		Alfalfa hay		Sweet corn		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
59:								
Ildefonso-----	7s	---	---	---	---	---	---	---
La Fonda-----	6c	---	---	---	---	---	---	---
63:								
Placitas-----	7e	---	---	---	---	---	---	---
64:								
Skyvillage-----	7s	---	---	---	---	---	---	---
Ildefonso-----	6e	---	---	---	---	---	---	---
65:								
Ildefonso-----	6e	---	---	---	---	---	---	---
Harvey-----	7e	---	---	---	---	---	---	---
66:								
Zia-----	6c	---	---	---	---	---	---	---
67:								
Sandoval-----	7s	---	---	---	---	---	---	---
Poley-----	6e	---	---	---	---	---	---	---
68:								
Penistaja-----	6e	---	---	---	---	---	---	---
Querencia-----	6c	---	---	---	---	---	---	---
71:								
Palon-----	7c	---	---	---	---	---	---	---
72:								
Palon-----	7c	---	---	---	---	---	---	---
74:								
Origo-----	7s	---	---	---	---	---	---	---
Pavo-----	7c	---	---	---	---	---	---	---
75:								
Origo-----	7e	---	---	---	---	---	---	---

Table 5.--Irrigated and nonirrigated yields by map unit component

Map symbol and soil name	Land capability		Alfalfa hay		Sweet corn		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
82: Calaveras-----	7c	---	---	---	---	---	---	---
83: Calaveras-----	7e	---	---	---	---	---	---	---
Rubble land-----	8s	---	---	---	---	---	---	---
85: Redondo-----	7c	---	---	---	---	---	---	---
86: Redondo-----	7c	---	---	---	---	---	---	---
87: Redondo-----	7e	---	---	---	---	---	---	---
Rubble land-----	8s	---	---	---	---	---	---	---
88: Totavi-----	6s	---	---	---	---	---	---	---
Jemez-----	7c	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---
91: Zia-----	6c	2e	---	6.00	---	5.00	---	8.00
92: Galisteo, moderately saline, sodic-----	6c	4s	---	---	---	---	---	---
93: Zia-----	6c	2e	---	6.00	---	5.00	---	12.00
95: El Rancho-----	6c	2e	---	7.00	---	---	---	14.00
97: El Rancho-----	6c	2e	---	7.00	---	---	---	14.00
100: Orejas-----	7s	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---

Table 5.--Irrigated and nonirrigated yields by map unit component

Map symbol and soil name	Land capability		Alfalfa hay		Sweet corn		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
101:								
Blancot-----	6c	---	---	---	---	---	---	---
Lybrook-----	7s	---	---	---	---	---	---	---
102:								
Sparham-----	6c	3s	---	1.50	---	---	---	6.00
104:								
Cochiti-----	6e	---	---	---	---	---	---	---
Montecito-----	6e	---	---	---	---	---	---	---
105:								
Badland-----	8	---	---	---	---	---	---	---
Menefee-----	7e	---	---	---	---	---	---	---
106:								
Stumble-----	7c	---	---	---	---	---	---	---
Stumble, sandy-----	7c	---	---	---	---	---	---	---
108:								
Embudo-----	7c	---	---	---	---	---	---	---
109:								
Embudo-----	7e	---	---	---	---	---	---	---
Tijeras-----	7c	---	---	---	---	---	---	---
110:								
Rock outcrop-----	8s	---	---	---	---	---	---	---
Saido-----	7e	---	---	---	---	---	---	---
111:								
Rock outcrop-----	8s	---	---	---	---	---	---	---
Zia-----	6e	---	---	---	---	---	---	---
112:								
Tijeras-----	7c	---	---	---	---	---	---	---
114:								
San Mateo-----	6e	2e	---	5.00	---	---	---	13.00

Table 5.--Irrigated and nonirrigated yields by map unit component

Map symbol and soil name	Land capability		Alfalfa hay		Sweet corn		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
114: Zia-----	6c	---	---	---	---	---	---	---
120: Pinavetes-----	6e	---	---	---	---	---	---	---
124: Rock outcrop-----	8s	---	---	---	---	---	---	---
129: Menefee-----	7e	---	---	---	---	---	---	---
130: Pinavetes-----	6e	---	---	---	---	---	---	---
Galisteo, moderately saline, sodic-----	6c	---	---	---	---	---	---	---
142: Grieta-----	7e	---	---	---	---	---	---	---
143: Clovis-----	6c	---	---	---	---	---	---	---
145: Grieta-----	7e	---	---	---	---	---	---	---
Sheppard-----	7s	---	---	---	---	---	---	---
146: Sedmar-----	7c	---	---	---	---	---	---	---
150: Doakum-----	6c	---	---	---	---	---	---	---
Betonnie-----	6c	---	---	---	---	---	---	---
162: Hackroy-----	7s	---	---	---	---	---	---	---
Nyjack-----	6c	---	---	---	---	---	---	---
163: Jemez-----	7c	---	---	---	---	---	---	---

Table 5.--Irrigated and nonirrigated yields by map unit component

Map symbol and soil name	Land capability		Alfalfa hay		Sweet corn		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
170: San Mateo-----	6e	2e	---	5.00	---	---	---	10.00
180: Councelor-----	6c	---	---	---	---	---	---	---
Eslando-----	7e	---	---	---	---	---	---	---
Mespun-----	7s	---	---	---	---	---	---	---
183: Sheppard-----	7s	---	---	---	---	---	---	---
185: Frijoles-----	6e	---	---	---	---	---	---	---
190: Zia-----	6c	---	---	---	---	---	---	---
Skyvillage-----	7s	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---
191: Sheppard-----	7s	---	---	---	---	---	---	---
200: Sedillo-----	7s	---	---	---	---	---	---	---
201: Rock outcrop-----	8s	---	---	---	---	---	---	---
Sedgran-----	7e	---	---	---	---	---	---	---
206: Pinitos-----	7c	---	---	---	---	---	---	---
207: Penistaja-----	6c	---	---	---	---	---	---	---
Zia-----	6c	3e	---	6.00	---	5.00	---	8.00
208: Sedillo-----	7e	---	---	---	---	---	---	---

Table 5.--Irrigated and nonirrigated yields by map unit component

Map symbol and soil name	Land capability		Alfalfa hay		Sweet corn		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
210: Ildefonso-----	7e	---	---	---	---	---	---	---
211: Zia-----	6c	---	---	---	---	---	---	---
Clovis-----	6c	---	---	---	---	---	---	---
213: Pinavetes-----	6e	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---
215: Ess-----	7c	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---
217: Witt-----	6e	---	---	---	---	---	---	---
218: Ildefonso-----	7s	---	---	---	---	---	---	---
220: Rock outcrop-----	8s	---	---	---	---	---	---	---
Vessilla-----	7e	---	---	---	---	---	---	---
Menefee-----	7e	---	---	---	---	---	---	---
226: Galisteo, moderately saline, sodic-----	6c	---	---	---	---	---	---	---
227: Hagerman-----	6c	---	---	---	---	---	---	---
Bond-----	6c	---	---	---	---	---	---	---
228: Winona-----	7e	---	---	---	---	---	---	---
230: Skyvillage-----	7s	---	---	---	---	---	---	---

Table 5.--Irrigated and nonirrigated yields by map unit component

Map symbol and soil name	Land capability		Alfalfa hay		Sweet corn		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
230:								
Sandoval-----	7s	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---
231:								
Querencia-----	6c	---	---	---	---	---	---	---
234:								
Querencia-----	6c	---	---	---	---	---	---	---
Zia-----	6c	---	---	---	---	---	---	---
235:								
Sandoval-----	7s	---	---	---	---	---	---	---
236:								
Sparank, moderately saline, sodic-----	7s	---	---	---	---	---	---	---
237:								
Sparank-----	6c	2e	---	5.00	---	---	---	10.00
240:								
Penistaja-----	6c	---	---	---	---	---	---	---
Hagerman-----	6c	---	---	---	---	---	---	---
250:								
Pinavetes-----	6e	---	---	---	---	---	---	---
262:								
Pastura-----	7s	---	---	---	---	---	---	---
270:								
Blancot-----	6c	---	---	---	---	---	---	---
Councilor-----	6c	---	---	---	---	---	---	---
Tsosie-----	6c	---	---	---	---	---	---	---
281:								
Carjo-----	5c	---	---	---	---	---	---	---
282:								
Total-----	7s	---	---	---	---	---	---	---

Table 5.--Irrigated and nonirrigated yields by map unit component

Map symbol and soil name	Land capability		Alfalfa hay		Sweet corn		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
283:								
Mirand-----	7c	---	---	---	---	---	---	---
Alanos-----	7c	---	---	---	---	---	---	---
290:								
Alanos-----	7c	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---
300:								
Waumac-----	6s	---	---	---	---	---	---	---
Bamac-----	6e	---	---	---	---	---	---	---
301:								
Vastine-----	7c	---	---	---	---	---	---	---
Jarola-----	7c	---	---	---	---	---	---	---
302:								
Tranquilar-----	7c	---	---	---	---	---	---	---
Jarmillo-----	7c	---	---	---	---	---	---	---
304:								
Cosey-----	7c	---	---	---	---	---	---	---
Jarmillo-----	7c	---	---	---	---	---	---	---
307:								
Flugle-----	6c	---	---	---	---	---	---	---
Waumac-----	6s	---	---	---	---	---	---	---
308:								
Cajete-----	7c	---	---	---	---	---	---	---
311:								
Cosey-----	7c	---	---	---	---	---	---	---
Tranquilar-----	7c	---	---	---	---	---	---	---
Calaveras-----	7c	---	---	---	---	---	---	---

Table 5.--Irrigated and nonirrigated yields by map unit component

Map symbol and soil name	Land capability		Alfalfa hay		Sweet corn		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
312: Royosa-----	6e	---	---	---	---	---	---	---
314: Fragua-----	6c	---	---	---	---	---	---	---
Waumac-----	6s	---	---	---	---	---	---	---
Royosa-----	6e	---	---	---	---	---	---	---
317: Elpedro-----	6e	---	---	---	---	---	---	---
319: Bamac-----	7e	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---
320: Sparham-----	6c	3s	---	1.50	---	---	---	---
321: Waumac-----	6s	---	---	---	---	---	---	---
Royosa-----	6e	---	---	---	---	---	---	---
322: Fragua-----	6e	---	---	---	---	---	---	---
324: Rock outcrop-----	8s	---	---	---	---	---	---	---
Atarque-----	7s	---	---	---	---	---	---	---
Menefee-----	7e	---	---	---	---	---	---	---
325: Rock outcrop-----	8s	---	---	---	---	---	---	---
Espiritu-----	7e	---	---	---	---	---	---	---
Vessilla-----	7e	---	---	---	---	---	---	---
342: Waumac-----	6s	---	---	---	---	---	---	---

Table 5.--Irrigated and nonirrigated yields by map unit component

Map symbol and soil name	Land capability		Alfalfa hay		Sweet corn		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
342:								
Vessilla-----	7s	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---
345:								
Espiritu-----	7e	---	---	---	---	---	---	---
Bamac-----	7e	---	---	---	---	---	---	---
346:								
Espiritu, cobbly-----	6e	---	---	---	---	---	---	---
Bamac-----	6e	---	---	---	---	---	---	---
348:								
Wauquie-----	7s	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---
353:								
Cochiti-----	6e	---	---	---	---	---	---	---
Espiritu-----	7e	---	---	---	---	---	---	---
354:								
Waumac Variant-----	7s	---	---	---	---	---	---	---
358:								
Deama-----	7e	---	---	---	---	---	---	---
Elpedro-----	7e	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---
396:								
Atarque-----	7e	---	---	---	---	---	---	---
Menefee-----	7s	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---
397:								
Rock outcrop-----	8s	---	---	---	---	---	---	---
Cucho-----	7e	---	---	---	---	---	---	---

Table 5.--Irrigated and nonirrigated yields by map unit component

Map symbol and soil name	Land capability		Alfalfa hay		Sweet corn		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
397: Vessilla-----	7e	---	---	---	---	---	---	---
398: Espiritu-----	7e	---	---	---	---	---	---	---
Cucho-----	7e	---	---	---	---	---	---	---
399: Cucho-----	6e	---	---	---	---	---	---	---
Teco-----	6e	---	---	---	---	---	---	---
405: Charo-----	7c	---	---	---	---	---	---	---
Charo, noncobbly-----	7c	---	---	---	---	---	---	---
409: Santa Fe-----	7s	---	---	---	---	---	---	---
410: Zia-----	6c	3e	---	7.50	---	6.00	---	15.00
414: Wauquie-----	7s	---	---	---	---	---	---	---
417: Jocity-----	7c	2e	---	6.00	---	---	---	12.00
418: Jocity-----	7c	2e	---	6.00	---	---	---	12.00
419: Santa Fe-----	7e	---	---	---	---	---	---	---
Wauquie-----	7e	---	---	---	---	---	---	---
Rock outcrop-----	8s	---	---	---	---	---	---	---
420: Pinavetes-----	6c	3s	---	6.00	---	4.00	---	8.00
421: Gilco, moderately saline, sodic-----	7c	4s	---	4.00	---	3.00	---	8.00

Table 5.--Irrigated and nonirrigated yields by map unit component

Map symbol and soil name	Land capability		Alfalfa hay		Sweet corn		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
422:								
Vessilla-----	7s	---	---	---	---	---	---	---
Menefee-----	7s	---	---	---	---	---	---	---
Orlie-----	6c	---	---	---	---	---	---	---
423:								
Gilco-----	7e	4e	---	6.00	---	5.00	---	12.00
426:								
Aga, moderately saline, sodic-----	7c	4s	---	3.00	---	---	---	6.00
427:								
Aga-----	7c	2e	---	4.50	---	---	---	9.00
428:								
Aga, moderately saline, sodic-----	7c	4s	---	3.00	---	---	---	6.00
430:								
Trail-----	7s	4e	---	7.00	---	4.50	---	14.00
431:								
Trail-----	7s	4e	---	7.00	---	4.50	---	14.00
433:								
Peralta-----	7c	3e	---	5.00	---	---	---	10.00
434:								
Peralta-----	7c	3e	---	5.00	---	---	---	10.00
437:								
Peralta, moderately saline, sodic-----	7s	4s	---	4.00	---	---	---	10.00
500:								
Rock outcrop-----	8s	---	---	---	---	---	---	---
Osha-----	7c	---	---	---	---	---	---	---
Rubble land-----	8s	---	---	---	---	---	---	---
503:								
Cajete-----	7c	---	---	---	---	---	---	---

Table 5.--Irrigated and nonirrigated yields by map unit component

Map symbol and soil name	Land capability		Alfalfa hay		Sweet corn		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
503: Cypher-----	7c	---	---	---	---	---	---	---
504: Orejas-----	7s	---	---	---	---	---	---	---
Guaje-----	6s	---	---	---	---	---	---	---
600: Rock outcrop-----	8s	---	---	---	---	---	---	---
Cypher-----	7c	---	---	---	---	---	---	---
601: Laventana-----	7c	---	---	---	---	---	---	---
603: Laventana-----	7c	---	---	---	---	---	---	---
Mirand-----	7c	---	---	---	---	---	---	---
604: Cypher-----	7c	---	---	---	---	---	---	---
Mirand-----	7c	---	---	---	---	---	---	---
608: Osha, steep-----	7c	---	---	---	---	---	---	---
Osha-----	7c	---	---	---	---	---	---	---
823: Gilco, unprotected-----	7e	4e	---	6.00	---	5.00	---	10.00
827: Aga, unprotected-----	7c	2e	---	---	---	---	---	---
830: Trail, unprotected-----	7s	4e	---	7.00	---	4.50	---	14.00
831: Trail, unprotected-----	7s	4s	---	4.00	---	---	---	6.00
835: Peralta, unprotected----	7c	---	---	---	---	---	---	---

Table 5.--Irrigated and nonirrigated yields by map unit component

Map symbol and soil name	Land capability		Alfalfa hay		Sweet corn		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
842: Peralta, moderately saline, sodic, unprotected-----	7s	4s	---	4.00	---	---	---	11.00
850: Water-----	---	---	---	---	---	---	---	---
DAM: Dam-----	---	---	---	---	---	---	---	---

Table 6.--Prime and other important farmland

(Only the soils considered prime or important farmland are listed. Urban or built-up areas of the soils listed are not considered prime or important farmland. If a soil is prime or important farmland only under certain conditions, the conditions are specified in parentheses after the soil name.)

Map symbol	Map unit name	Farmland Classification
20	Gilco clay loam, 0 to 1 percent slopes	Prime farmland if irrigated
22	Aga silty clay loam, 0 to 1 percent slopes	Prime farmland if irrigated
25	Gilco loam, 0 to 1 percent slopes	Prime farmland if irrigated
27	Aga loam, 0 to 1 percent slopes	Prime farmland if irrigated
91	Zia sandy loam, 1 to 3 percent slopes	Prime farmland if irrigated
95	El Rancho loam, 0 to 2 percent slopes	Prime farmland if irrigated
97	El Rancho clay loam, 0 to 2 percent slopes	Prime farmland if irrigated
410	Zia loam, 0 to 1 percent slopes	Prime farmland if irrigated
417	Jocity loam, 0 to 2 percent slopes	Prime farmland if irrigated
418	Jocity clay loam, 0 to 2 percent slopes	Prime farmland if irrigated
433	Peralta loam, 0 to 1 percent slopes	Prime farmland if irrigated

Table 7.--Rangeland productivity

(Only the soils that support rangeland vegetation suitable for grazing are rated.)

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
1:				
Silver-----	Loamy	950	663	375
Clovis-----	Loamy	950	663	375
2:				
Clovis-----	Loamy	950	663	375
Prieta-----	Malpais	1,100	763	425
Silver-----	Loamy	950	663	375
3:				
Montecito-----	---	---	---	---
Orejas-----	---	---	---	---
4:				
Montecito-----	---	---	---	---
Montecito, bouldery-----	---	---	---	---
10:				
Trail-----	Bottomland	4,000	2,400	800
11:				
Trail-----	Bottomland	4,000	2,400	800
13:				
Sandoval-----	Shallow	850	575	300
Querencia-----	Loamy	950	663	375
15:				
Camino-----	Clayey	1,200	1,000	800
Sandoval-----	Shallow	850	575	300
16:				
Rock outcrop-----	---	---	---	---
Prieta-----	Malpais	1,100	763	425

Table 7.--Rangeland productivity--continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
17:				
Vessilla-----	---	---	---	---
Menefee-----	---	---	---	---
Rock outcrop-----	---	---	---	---
18:				
Sparham-----	Clayey	1,200	800	600
20:				
Gilco-----	Bottomland	4,000	2,400	800
21:				
Rock outcrop-----	---	---	---	---
Hackroy-----	---	---	---	---
22:				
Aga-----	Bottomland	4,000	2,400	800
23:				
Hickman-----	Swale	1,700	1,300	800
24:				
Orlie-----	Loamy	1,100	750	600
Sparham-----	Clayey	1,200	800	600
25:				
Gilco-----	Bottomland	4,000	2,400	800
26:				
Orlie-----	Loamy	1,100	750	600
27:				
Aga-----	Bottomland	4,000	2,400	800
29:				
Trail-----	Deep Sand	4,000	2,400	800
31:				
Riverwash-----	---	---	---	---
33:				
Pits-----	---	---	---	---

Table 7.--Rangeland productivity--continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
34:				
Ildefonso-----	Limy	950	675	375
Witt-----	Loamy	950	663	375
41:				
Dune land-----	---	---	---	---
47:				
Cascajo-----	Gravelly	900	650	375
51:				
Sparham-----	Clayey	4,000	2,400	800
52:				
Totavi-----	---	---	---	---
53:				
Witt-----	Loamy	1,500	950	400
Harvey-----	Limy	1,500	950	400
54:				
Harvey-----	Limy	1,500	1,000	400
Cascajo-----	Gravelly	1,100	1,000	400
55:				
La Fonda-----	Loamy	1,500	950	400
56:				
Ildefonso-----	Breaks	1,300	800	300
57:				
Badland-----	---	---	---	---
58:				
Deama-----	---	---	---	---
Elpedro-----	---	---	---	---
59:				
Harvey-----	Limy	1,500	950	400
Ildefonso-----	Breaks	1,300	800	300

Table 7.--Rangeland productivity--continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
59: La Fonda-----	Loamy	1,500	950	400
63: Placitas-----	Gravelly	1,100	750	400
64: Skyvillage-----	Shallow Sandstone	700	575	275
Ildefonso-----	Breaks	1,300	800	300
65: Ildefonso-----	Breaks	1,300	800	300
Harvey-----	Limy	1,500	950	400
66: Zia-----	Sandy	850	500	325
67: Sandoval-----	Shallow	850	525	300
Poley-----	Foothills	750	550	375
68: Penistaja-----	Loamy	950	663	375
Querencia-----	Loamy	950	663	375
71: Palon-----	---	---	---	---
72: Palon-----	---	---	---	---
74: Origo-----	---	---	---	---
Pavo-----	Mountain Loam	1,400	1,150	900
75: Origo-----	---	---	---	---
82: Calaveras-----	---	---	---	---

Table 7.--Rangeland productivity--continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
83:				
Calaveras-----	---	---	---	---
Rubble land-----	---	---	---	---
85:				
Redondo-----	---	---	---	---
86:				
Redondo-----	---	---	---	---
87:				
Redondo-----	---	---	---	---
Rubble land-----	---	---	---	---
88:				
Totavi-----	---	---	---	---
Jemez-----	---	---	---	---
Rock outcrop-----	---	---	---	---
91:				
Zia-----	Sandy	860	575	325
92:				
Galisteo, moderately saline, sodic	Salty Bottomland	1,500	1,050	600
93:				
Zia-----	Sandy	860	550	325
95:				
El Rancho-----	Loamy	950	663	375
97:				
El Rancho-----	Loamy	950	663	375
100:				
Orejas-----	---	---	---	---
Rock outcrop-----	---	---	---	---
101:				
Blancot-----	Loamy	800	550	300

Table 7.--Rangeland productivity--continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
101: Lybrook-----	Salt Flats	700	500	300
102: Sparham-----	Bottomland	4,000	2,400	800
104: Cochiti-----	---	---	---	---
Montecito-----	---	---	---	---
105: Badland-----	---	---	---	---
Menefee-----	---	---	---	---
106: Stumble-----	Gravelly Sand	600	400	300
Stumble, sandy-----	Deep Sand	900	800	400
108: Embudo-----	Sandy	900	650	400
109: Embudo-----	Sandy	900	650	400
Tijeras-----	Sandy	900	650	400
110: Rock outcrop-----	---	---	---	---
Saido-----	Gyp Upland	750	475	200
111: Rock outcrop-----	---	---	---	---
Zia-----	Foothills	750	650	375
112: Tijeras-----	Sandy	900	650	400
114: San Mateo-----	Swale	1,350	1,050	600
Zia-----	Sandy	950	675	375

Table 7.--Rangeland productivity--continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
120: Pinavetes-----	Deep Sand	900	600	275
124: Rock outcrop-----	---	---	---	---
129: Menefee-----	---	---	---	---
130: Pinavetes-----	Deep Sand	900	600	275
Galisteo, moderately saline, sodic	Salty Bottomland	1,500	1,050	600
142: Grieta-----	Loamy	950	663	375
143: Clovis-----	Loamy	950	663	375
145: Grieta-----	Loamy	950	663	375
Sheppard-----	Deep Sand	900	600	300
146: Sedmar-----	---	---	---	---
150: Doakum-----	Loamy	800	550	300
Betonnie-----	Sandy	900	600	300
162: Hackroy-----	---	---	---	---
Nyjack-----	---	---	---	---
163: Jemez-----	---	---	---	---
170: San Mateo-----	Swale	1,350	975	600
180: Cuncelor-----	Sandy	900	600	300

Table 7.--Rangeland productivity--continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
180:				
Eslendo-----	Shallow	500	300	150
Mespun-----	Deep Sand	800	525	250
183:				
Sheppard-----	Deep Sand	900	600	300
185:				
Frijoles-----	---	---	---	---
190:				
Zia-----	Sandy	750	650	500
Skyvillage-----	Shallow Sandstone	700	500	275
Rock outcrop-----	---	---	---	---
191:				
Sheppard-----	Deep Sand	900	600	300
200:				
Sedillo-----	Gravelly	900	625	350
201:				
Rock outcrop-----	---	---	---	---
Sedgran-----	Hills	750	600	350
206:				
Pinitos-----	---	---	---	---
207:				
Penistaja-----	Loamy	950	663	375
Zia-----	Loamy	950	650	375
208:				
Sedillo-----	Gravelly	750	575	375
210:				
Ildefonso-----	Limy	900	625	375
211:				
Zia-----	Sandy	860	525	325

Table 7.--Rangeland productivity--continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
211: Clovis-----	Loamy	950	663	375
213: Pinavetes-----	Deep Sand	900	600	300
Rock outcrop-----	---	---	---	---
215: Ess-----	Subalpine Grassland	1,800	1,500	1,200
Rock outcrop-----	---	---	---	---
217: Witt-----	Loamy	950	663	375
218: Ildefonso-----	Limy	950	625	375
220: Rock outcrop-----	---	---	---	---
Vessilla-----	---	---	---	---
Menefee-----	---	---	---	---
226: Galisteo, moderately saline, sodic	Salty Bottomland	1,500	1,050	600
227: Hagerman-----	Loamy	950	663	375
Bond-----	Shallow Sandstone	700	500	275
228: Winona-----	Shallow Sandstone	850	575	300
230: Skyvillage-----	Shallow Sandstone	700	500	275
Sandoval-----	Shallow	850	575	300
Rock outcrop-----	---	---	---	---
231: Querencia-----	Loamy	950	663	375

Table 7.--Rangeland productivity--continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
234:				
Querencia-----	Loamy	950	663	375
Zia-----	Sandy	860	600	325
235:				
Sandoval-----	Shallow	850	575	300
236:				
Sparank, moderately saline, sodic-	Salty Bottomland	1,500	1,000	550
237:				
Sparank-----	Clayey Bottomland	3,200	2,250	1,250
240:				
Penistaja-----	Loamy	950	663	375
Hagerman-----	Loamy	950	663	375
250:				
Pinavetes-----	Deep Sand	900	600	275
262:				
Pastura-----	Shallow Limy Savannah	900	800	450
270:				
Blancot-----	Loamy	800	550	300
Councilor-----	Sandy	900	600	300
Tsosie-----	Salt Flats	700	500	300
281:				
Carjo-----	---	---	---	---
282:				
Tocal-----	---	---	---	---
283:				
Mirand-----	---	---	---	---
Alanos-----	---	---	---	---
290:				
Alanos-----	---	---	---	---

Table 7.--Rangeland productivity--continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
290: Rock outcrop-----	---	---	---	---
300: Waumac-----	Sandy	860	600	325
Bamac-----	Foothills	860	600	325
301: Vastine-----	Mountain Loam	1,400	1,150	900
Jarola-----	Mountain Meadow	1,400	1,150	900
302: Tranquilar-----	Mountain Grassland	2,000	1,400	1,000
Jarmillo-----	Mountain Loam	1,400	1,100	800
304: Cosey-----	Mountain Loam	1,400	1,100	800
Jarmillo-----	Mountain Loam	1,400	1,100	800
307: Flugle-----	Savannah	875	550	300
Waumac-----	Sandy	860	600	325
308: Cajete-----	Mountain Grassland	2,000	1,400	1,000
311: Cosey-----	Mountain Loam	1,400	1,100	800
Tranquilar-----	Mountain Grassland	2,000	1,400	1,000
Calaveras-----	---	---	---	---
312: Royosa-----	Deep Sand	900	600	275
314: Fragua-----	Foothills	900	600	300
Waumac-----	Sandy	900	600	300

Table 7.--Rangeland productivity--continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
314: Royosa-----	Deep Sand	900	600	275
317: Elpedro-----	---	---	---	---
319: Bamac-----	Foothills	750	500	375
Rock outcrop-----	---	---	---	---
320: Sparham-----	Clayey	1,200	800	600
321: Waumac-----	Sandy	900	600	300
Royosa-----	Deep Sand	900	600	275
322: Fragua-----	Foothills	---	---	---
324: Rock outcrop-----	---	---	---	---
Atarque-----	Shallow Sandstone	700	475	275
Menefee-----	Shallow	850	575	300
325: Rock outcrop-----	---	---	---	---
Espiritu-----	Foothills	---	---	---
Vessilla-----	---	---	---	---
342: Waumac-----	Sandy	900	600	300
Vessilla-----	---	750	525	300
Rock outcrop-----	---	---	---	---
345: Espiritu-----	Foothills	750	575	375

Table 7.--Rangeland productivity--continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
345: Bamac-----	Foothills	750	575	375
346: Espiritu, cobbly-----	Foothills	---	---	---
Bamac-----	Foothills	---	---	---
348: Wauquie-----	---	---	---	---
Rock outcrop-----	---	---	---	---
353: Cochiti-----	---	---	---	---
Espiritu-----	Foothills	---	---	---
354: Waumac Variant-----	---	---	---	---
358: Deama-----	---	---	---	---
Elpedro-----	---	---	---	---
Rock outcrop-----	---	---	---	---
396: Atarque-----	Shallow Sandstone	---	---	---
Menefee-----	---	---	---	---
Rock outcrop-----	---	---	---	---
397: Rock outcrop-----	---	---	---	---
Cucho-----	---	---	---	---
Vessilla-----	---	---	---	---
398: Espiritu-----	Foothills	750	525	375
Cucho-----	---	---	---	---

Table 7.--Rangeland productivity--continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
399:				
Cucho-----	---	---	---	---
Teco-----	Clayey	800	525	250
405:				
Charo-----	---	---	---	---
Charo, noncobbly-----	Mountain Grassland	2,000	1,400	1,000
409:				
Santa Fe-----	---	---	---	---
410:				
Zia-----	Loamy	950	625	375
414:				
Wauquie-----	---	---	---	---
417:				
Jocity-----	Bottomland	4,000	2,400	800
418:				
Jocity-----	Bottomland	4,000	2,400	800
419:				
Santa Fe-----	---	---	---	---
Wauquie-----	---	---	---	---
Rock outcrop-----	---	---	---	---
420:				
Pinavetes-----	Deep Sand	900	600	275
421:				
Gilco, moderately saline, sodic---	Salty Bottomland	600	400	200
422:				
Vessilla-----	---	---	---	---
Menefee-----	---	---	---	---
Orlie-----	Loamy	1,100	850	600

Table 7.--Rangeland productivity--continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
423: Gilco-----	Bottomland	4,000	2,400	800
426: Aga, moderately saline, sodic----	Bottomland	4,000	2,400	800
427: Aga-----	Bottomland	4,000	2,400	800
428: Aga, moderately saline, sodic----	Salty Bottomland	2,000	1,500	1,000
430: Trail-----	Bottomland	4,000	2,400	800
431: Trail-----	Deep Sand	4,000	2,400	800
433: Peralta-----	Bottomland	4,000	2,400	800
434: Peralta-----	Bottomland	4,000	2,400	800
437: Peralta, moderately saline, sodic-	Salty Bottomland	900	600	300
500: Rock outcrop-----	---	---	---	---
Osha-----	---	---	---	---
Rubble land-----	---	---	---	---
503: Cajete-----	---	---	---	---
Cypher-----	---	---	---	---
504: Orejas-----	---	---	---	---
Guaje-----	---	---	---	---
600: Rock outcrop-----	---	---	---	---

Table 7.--Rangeland productivity--continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
600: Cypher-----	---	---	---	---
601: Laventana-----	---	---	---	---
603: Laventana-----	---	---	---	---
Mirand-----	---	---	---	---
604: Cypher-----	---	---	---	---
Mirand-----	---	---	---	---
608: Osha, steep-----	---	---	---	---
Osha-----	---	---	---	---
823: Gilco, unprotected-----	Bottomland	4,000	2,400	800
827: Aga, unprotected-----	Bottomland	4,000	2,400	800
830: Trail, unprotected-----	Bottomland	4,000	2,400	800
831: Trail, unprotected-----	Bottomland	4,000	2,400	800
835: Peralta, unprotected-----	Bottomland	4,000	2,400	800
842: Peralta, moderately saline, sodic, unprotected-----	Salty Bottomland	900	600	300
850: Water-----	---	---	---	---

Table 7.--Rangeland productivity--continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
DAM: Dam-----	---	---	---	---

Table 8.--Forestland productivity

Only those map units which produce harvestable timber are shown

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
52: Totavi-----	oneseed juniper----- ponderosa pine----- Utah juniper-----	--- 75 ---	0 57 0	ponderosa pine
71: Palon-----	Douglas-fir----- ponderosa pine----- white fir-----	71 79 ---	0 72 0	Douglas-fir, ponderosa pine, white fir
72: Palon-----	Douglas-fir----- ponderosa pine----- white fir-----	65 62 ---	0 43 0	Douglas-fir, ponderosa pine, white fir
74: Origo-----	Douglas-fir----- limber pine----- quaking aspen----- white fir-----	66 --- --- ---	57 0 0 0	Douglas-fir, white fir
Pavo-----	---	---	---	---
75: Origo-----	Douglas-fir----- Engelmann spruce--- white fir-----	66 79 ---	57 72 0	Douglas-fir, Engelmann spruce, white fir
82: Calaveras-----	Douglas-fir----- limber pine----- ponderosa pine----- white fir-----	71 --- --- ---	57 0 0 0	ponderosa pine
83: Calaveras-----	Douglas-fir----- limber pine----- ponderosa pine----- white fir-----	77 --- --- ---	57 0 0 0	ponderosa pine
Rubble land-----	---	---	---	---
85: Redondo-----	Engelmann spruce---	68	57	Engelmann spruce
86: Redondo-----	Engelmann spruce---	74	72	Engelmann spruce
87: Redondo-----	Engelmann spruce---	74	72	Engelmann spruce
Rubble land-----	---	---	---	---
88: Totavi-----	oneseed juniper----- ponderosa pine-----	--- 75	0 57	ponderosa pine

Table 8.--Forestland productivity--continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
88:				
Jemez-----	Douglas-fir-----	74	0	Douglas-fir, ponderosa pine, white fir
	ponderosa pine-----	74	57	
	white fir-----	---	0	
Rock outcrop-----	---	---	---	---
146:				
Sedmar-----	Gambel oak-----	---	0	ponderosa pine
	ponderosa pine-----	52	43	
162:				
Hackroy-----	oneseed juniper-----	---	0	oneseed juniper, twoneedle pinyon
	twoneedle pinyon-----	20	0	
Nyjack-----	oneseed juniper-----	---	0	ponderosa pine
	ponderosa pine-----	60	43	
	twoneedle pinyon-----	---	0	
163:				
Jemez-----	Douglas-fir-----	74	0	Douglas-fir, ponderosa pine, white fir
	ponderosa pine-----	74	57	
	white fir-----	---	0	
281:				
Carjo-----	ponderosa pine-----	52	43	ponderosa pine
282:				
Tocal-----	Douglas-fir-----	---	0	ponderosa pine
	ponderosa pine-----	58	43	
	white fir-----	---	0	
283:				
Mirand-----	ponderosa pine-----	57	43	ponderosa pine
Alanos-----	Douglas-fir-----	---	0	Douglas-fir, ponderosa pine
	ponderosa pine-----	65	57	
290:				
Alanos-----	Douglas-fir-----	---	0	Douglas-fir, ponderosa pine
	ponderosa pine-----	65	57	
Rock outcrop-----	---	---	---	---
311:				
Cosey-----	---	---	---	---
Tranquilar-----	---	---	---	---
Calaveras-----	Douglas-fir-----	71	57	ponderosa pine
	limber pine-----	---	0	
	ponderosa pine-----	---	0	
	white fir-----	---	0	
405:				
Charo-----	ponderosa pine-----	66	57	ponderosa pine
	Rocky Mountain juniper-----	---	0	
	twoneedle pinyon-----	---	0	

Table 8.--Forestland productivity--continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
405: Charo, noncobbly-----	---	---	---	---
500: Rock outcrop-----	---	---	---	---
Osha-----	ponderosa pine-----	48	29	ponderosa pine
Rubble land-----	---	---	---	---
503: Cajete-----	ponderosa pine-----	53	43	ponderosa pine
Cypher-----	ponderosa pine-----	50	43	ponderosa pine
600: Rock outcrop-----	---	---	---	---
Cypher-----	ponderosa pine-----	45	29	ponderosa pine
601: Laventana-----	ponderosa pine-----	74	57	ponderosa pine
603: Laventana-----	ponderosa pine-----	55	43	ponderosa pine
Mirand-----	ponderosa pine-----	76	57	ponderosa pine
604: Cypher-----	ponderosa pine-----	46	29	ponderosa pine
Mirand-----	ponderosa pine-----	76	57	ponderosa pine
608: Osha, steep-----	ponderosa pine-----	52	43	ponderosa pine
Osha-----	ponderosa pine-----	64	43	ponderosa pine

Table 9A.--Camp areas, picnic areas, and playgrounds

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1: Silver-----	55	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.50 0.50
Clovis-----	35	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.50 0.50
2: Clovis-----	35	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Dusty	1.00 0.50
Prieta-----	35	Very limited Depth to bedrock Dusty Slow water movement Large stones content Gravel content	1.00 0.50 0.21 0.18 0.08	Very limited Depth to bedrock Dusty Slow water movement Large stones content Gravel content	1.00 0.50 0.21 0.18 0.08	Very limited Depth to bedrock Gravel content Large stones content Slope Dusty	1.00 1.00 1.00 1.00 1.00 0.50
Silver-----	20	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Dusty	1.00 0.50
3: Montecito-----	60	Not limited		Not limited		Somewhat limited Slope Large stones content	0.50 0.01

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3: Orejas-----	30	Very limited Depth to bedrock Large stones content	1.00 0.02	Very limited Depth to bedrock Large stones content	1.00 0.02	Very limited Depth to bedrock Large stones content Gravel content Slope	1.00 0.99 0.86 0.50
4: Montecito-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Large stones content	1.00 0.01
Montecito, bouldery-	35	Very limited Slope Large stones content Dusty Gravel content	1.00 0.68 0.50 0.05	Very limited Slope Large stones content Dusty Gravel content	1.00 0.68 0.50 0.05	Very limited Large stones content Slope Gravel content Dusty	1.00 1.00 1.00 0.50
10: Trail-----	85	Very limited Flooding	1.00	Not limited		Not limited	
11: Trail-----	85	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
13: Sandoval-----	65	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Slope	1.00 0.88
Querencia-----	20	Not limited		Not limited		Somewhat limited Slope	0.88

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15: Camino-----	40	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.41	Somewhat limited Slope	0.50
						Slow water movement	0.41
Sandoval-----	35	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Slope	1.00 0.88
16: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Prieta-----	30	Very limited Depth to bedrock Large stones content Dusty Slow water movement Slope	1.00 1.00 0.50 0.21 0.04	Very limited Depth to bedrock Large stones content Dusty Slow water movement Slope	1.00 1.00 0.50 0.21 0.04	Very limited Depth to bedrock Slope Large stones content Gravel content Dusty	1.00 1.00 1.00 0.56 0.50
17: Vessilla-----	35	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope	1.00 1.00
Menefee-----	25	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope	1.00 1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
18: Sparham-----	85	Very limited Flooding Sodium content Too clayey	1.00 1.00 0.50	Very limited Sodium content Too clayey	1.00 0.50	Very limited Sodium content Flooding Too clayey	1.00 0.60 0.50

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20: Gilco-----	85	Very limited Flooding	1.00	Not limited		Somewhat limited Gravel content	0.04
21: Rock outcrop-----	60	Not rated		Not rated		Not rated	
Hackroy-----	25	Very limited Depth to bedrock Slow water movement	1.00 0.41	Very limited Depth to bedrock Slow water movement	1.00 0.41	Very limited Depth to bedrock Slope Slow water movement	1.00 0.88 0.41
22: Aga-----	85	Very limited Flooding	1.00	Not limited		Not limited	
23: Hickman-----	85	Very limited Flooding	1.00	Not limited		Not limited	
24: Orlie-----	45	Not limited		Not limited		Somewhat limited Slope Gravel content	0.12 0.08
Sparham-----	35	Very limited Flooding Sodium content Too clayey Slow water movement	1.00 1.00 0.50 0.41	Very limited Sodium content Too clayey Slow water movement	1.00 0.50 0.41	Very limited Sodium content Flooding Too clayey Slow water movement Gravel content	1.00 0.60 0.50 0.41 0.04
25: Gilco-----	85	Very limited Flooding Dusty	1.00 0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
26: Orlie-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.50 0.50
27: Aga-----	85	Very limited Flooding Dusty	1.00 0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
29: Trail-----	85	Very limited Flooding Too sandy	1.00 0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81
31: Riverwash-----	90	Very limited Flooding Too sandy	1.00 1.00	Very limited Too sandy Flooding	1.00 0.40	Very limited Too sandy Flooding Gravel content	1.00 1.00 0.21
33: Pits-----	100	Not rated		Not rated		Not rated	
34: Ildefonso-----	55	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content Large stones content Slope Dusty	0.99 0.92 0.88 0.50
Witt-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope	0.50 0.12
41: Dune land-----	100	Very limited Too sandy Slope	1.00 0.16	Very limited Too sandy Slope	1.00 0.16	Very limited Too sandy Slope	1.00 1.00

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
47: Cascajo-----	85	Very limited Slope Gravel content	1.00 0.98	Very limited Slope Gravel content	1.00 0.98	Very limited Gravel content Slope Large stones content	1.00 1.00 0.61
51: Sparham-----	85	Very limited Depth to saturated zone Flooding Sodium content Slow water movement Salinity	1.00 1.00 1.00 0.41 0.13	Very limited Depth to saturated zone Sodium content Slow water movement Salinity	1.00 1.00 0.41 0.13	Very limited Depth to saturated zone Sodium content Flooding Slow water movement Salinity	1.00 1.00 0.60 0.41 0.13
52: Totavi-----	85	Very limited Flooding Too sandy	1.00 0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy Slope	0.81 0.12
53: Witt-----	55	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.50 0.50
Harvey-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.50 0.50
54: Harvey-----	45	Somewhat limited Slope Too sandy	0.16 0.01	Somewhat limited Slope Too sandy	0.16 0.01	Very limited Slope Too sandy	1.00 0.01
Cascajo-----	40	Somewhat limited Gravel content Slope	0.71 0.16	Somewhat limited Gravel content Slope	0.71 0.16	Very limited Gravel content Slope Large stones content	1.00 1.00 0.08

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
55: La Fonda-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope	0.50 0.12
56: Ildefonso-----	85	Very limited Slope Dusty	1.00 0.50	Very limited Slope Dusty	1.00 0.50	Very limited Slope Gravel content Large stones content Dusty	1.00 0.97 0.84 0.50
57: Badland-----	90	Not rated		Not rated		Not rated	
58: Deama-----	45	Very limited Slope Depth to bedrock Large stones content Gravel content Large stones content	1.00 1.00 1.00 0.03 0.02	Very limited Slope Depth to bedrock Large stones content Gravel content Large stones content	1.00 1.00 1.00 0.03 0.02	Very limited Slope Depth to bedrock Large stones content Gravel content Large stones content	1.00 1.00 1.00 1.00 0.99
Elpedro-----	35	Somewhat limited Dusty Slope	0.50 0.04	Somewhat limited Dusty Slope	0.50 0.04	Very limited Slope Dusty	1.00 0.50
59: Harvey-----	35	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Dusty	1.00 0.50
Ildefonso-----	35	Somewhat limited Dusty Slope	0.50 0.37	Somewhat limited Dusty Slope	0.50 0.37	Very limited Slope Dusty Gravel content Large stones content	1.00 0.50 0.11 0.08

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
59: La Fonda-----	15	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.88 0.50
63: Placitas-----	85	Very limited Slope Dusty Gravel content	1.00 0.50 0.08	Very limited Slope Dusty Gravel content	1.00 0.50 0.08	Very limited Slope Gravel content Depth to bedrock Dusty	1.00 1.00 0.71 0.50
64: Skyvillage-----	40	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00
Ildefonso-----	35	Very limited Slope Large stones content Gravel content	1.00 0.76 0.11	Very limited Slope Large stones content Gravel content	1.00 0.76 0.11	Very limited Slope Gravel content Large stones content Large stones content	1.00 1.00 0.76 0.05
65: Ildefonso-----	50	Very limited Slope Gravel content Large stones content	1.00 0.99 0.76	Very limited Slope Gravel content Large stones content	1.00 0.99 0.76	Very limited Gravel content Slope Large stones content Large stones content	1.00 1.00 0.76 0.32
Harvey-----	30	Somewhat limited Slope Dusty	0.84 0.50	Somewhat limited Slope Dusty	0.84 0.50	Very limited Slope Dusty	1.00 0.50
66: Zia-----	85	Not limited		Not limited		Somewhat limited Slope	0.88

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67: Sandoval-----	40	Very limited Depth to bedrock Slope Dusty	1.00 1.00 0.50	Very limited Depth to bedrock Slope Dusty	1.00 1.00 0.50	Very limited Depth to bedrock Slope Dusty	1.00 1.00 0.50
Poley-----	35	Very limited Slope Gravel content Dusty	1.00 0.75 0.50	Very limited Slope Gravel content Dusty	1.00 0.75 0.50	Very limited Gravel content Slope Large stones content Dusty	1.00 1.00 0.92 0.50
68: Penistaja-----	45	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Somewhat limited Slope Too sandy	0.88 0.79
Querencia-----	35	Not limited		Not limited		Somewhat limited Slope	0.88
71: Palon-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content Large stones content	1.00 0.99 0.46
72: Palon-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
74: Origo-----	50	Very limited Slope Gravel content	1.00 0.45	Very limited Slope Gravel content	1.00 0.45	Very limited Slope Gravel content Large stones content	1.00 1.00 0.08
Pavo-----	25	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75: Origo-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
82: Calaveras-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.01
83: Calaveras-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rubble land-----	20	Not rated		Not rated		Not rated	
85: Redondo-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
86: Redondo-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content Large stones content	1.00 0.78 0.20
87: Redondo-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content Large stones content	1.00 0.49 0.20
Rubble land-----	25	Not rated		Not rated		Not rated	
88: Totavi-----	45	Very limited Flooding	1.00	Not limited		Somewhat limited Slope Gravel content	0.12 0.04

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
88: Jemez-----	30	Somewhat limited Slow water movement Slope	0.21 0.16	Somewhat limited Slow water movement Slope	0.21 0.16	Very limited Slope Depth to bedrock Slow water movement	1.00 0.71 0.21
Rock outcrop-----	15	Not rated		Not rated		Not rated	
91: Zia-----	85	Not limited		Not limited		Not limited	
92: Galisteo, moderately saline, sodic-----	85	Very limited Salinity Slow water movement	1.00 0.41	Very limited Salinity Slow water movement	1.00 0.41	Very limited Salinity Slow water movement	1.00 0.41
93: Zia-----	85	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy Slope	0.81 0.12
95: El Rancho-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
97: El Rancho-----	85	Not limited		Not limited		Not limited	
100: Orejas-----	40	Very limited Slope Depth to bedrock Large stones content	1.00 1.00 0.18	Very limited Slope Depth to bedrock Large stones content	1.00 1.00 0.18	Very limited Slope Depth to bedrock Large stones content Gravel content	1.00 1.00 1.00 0.99
Rock outcrop-----	40	Not rated		Not rated		Not rated	

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
101: Blancot-----	55	Not limited		Not limited		Somewhat limited Slope	0.88
Lybrook-----	25	Very limited Sodium content	1.00	Very limited Sodium content	1.00	Very limited Sodium content	1.00
102: Sparham-----	85	Very limited Flooding Sodium content	1.00 1.00	Very limited Sodium content	1.00	Very limited Sodium content Flooding Gravel content	1.00 0.60 0.04
104: Cochiti-----	50	Very limited Slope Dusty Slow water movement	1.00 0.50 0.41	Very limited Slope Dusty Slow water movement	1.00 0.50 0.41	Very limited Slope Gravel content Dusty Slow water movement Large stones content	1.00 0.68 0.50 0.41 0.01
Montecito-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope	0.50 0.12
105: Badland-----	50	Not rated		Not rated		Not rated	
Menefee-----	30	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00
106: Stumble-----	50	Very limited Slope Gravel content	1.00 0.92	Very limited Slope Gravel content	1.00 0.92	Very limited Gravel content Slope	1.00 1.00

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
106: Stumble, sandy-----	30	Very limited Flooding Too sandy Gravel content	1.00 0.79 0.03	Somewhat limited Too sandy Gravel content	0.79 0.03	Very limited Gravel content Slope Too sandy	1.00 1.00 0.79
108: Embudo-----	85	Somewhat limited Gravel content Slope	0.01 0.01	Somewhat limited Gravel content Slope	0.01 0.01	Very limited Gravel content Slope	1.00 1.00
109: Embudo-----	50	Not limited		Not limited		Very limited Slope Gravel content	1.00 0.78
Tijeras-----	35	Not limited		Not limited		Somewhat limited Gravel content Slope	0.78 0.50
110: Rock outcrop-----	45	Not rated		Not rated		Not rated	
Saido-----	40	Very limited Slope Dusty Salinity	1.00 0.50 0.13	Very limited Slope Dusty Salinity	1.00 0.50 0.13	Very limited Slope Dusty Salinity	1.00 0.50 0.13
111: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Zia-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
112: Tijeras-----	85	Not limited		Not limited		Somewhat limited Gravel content Slope Large stones content	0.85 0.12 0.01

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
114: San Mateo-----	40	Very limited Flooding	1.00	Not limited		Not limited	
Zia-----	40	Not limited		Not limited		Somewhat limited Slope	0.88
120: Pinavetes-----	85	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy Slope	0.81 0.50
124: Rock outcrop-----	90	Not rated		Not rated		Not rated	
129: Menefee-----	85	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00
130: Pinavetes-----	45	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy Slope	0.81 0.12
Galisteo, moderately saline, sodic-----	40	Very limited Sodium content Salinity Flooding Slow water movement	1.00 1.00 1.00 0.41	Very limited Sodium content Salinity Slow water movement	1.00 1.00 0.41	Very limited Sodium content Salinity Slow water movement	1.00 1.00 0.41
142: Grieta-----	85	Not limited		Not limited		Somewhat limited Slope	0.12
143: Clovis-----	85	Not limited		Not limited		Somewhat limited Slope	0.12

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
145: Grieta-----	55	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy Slope	0.79 0.50
Sheppard-----	40	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Very limited Slope Too sandy	1.00 0.79
146: Sedmar-----	85	Very limited Depth to bedrock Too sandy Slope	1.00 0.81 0.01	Very limited Depth to bedrock Too sandy Slope	1.00 0.81 0.01	Very limited Depth to bedrock Slope Too sandy	1.00 1.00 0.81
150: Doakum-----	55	Not limited		Not limited		Somewhat limited Slope	0.12
Betonnies-----	35	Not limited		Not limited		Very limited Slope Gravel content	1.00 0.08
162: Hackroy-----	45	Very limited Depth to bedrock Slow water movement	1.00 0.41	Very limited Depth to bedrock Slow water movement	1.00 0.41	Very limited Depth to bedrock Slow water movement Slope	1.00 0.41 0.12
Nyjack-----	40	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope Depth to bedrock	0.50 0.12 0.01
163: Jemez-----	85	Somewhat limited Slow water movement Slope	0.21 0.01	Somewhat limited Slow water movement Slope	0.21 0.01	Very limited Slope Slow water movement Depth to bedrock	1.00 0.21 0.01

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
170: San Mateo-----	85	Very limited Flooding Sodium content Dusty	1.00 1.00 0.50	Very limited Sodium content Dusty	1.00 0.50	Very limited Sodium content Dusty	1.00 0.50
180: Cuncelor-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Eslendo-----	30	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00
Mespun-----	25	Very limited Slope Too sandy	1.00 0.31	Very limited Slope Too sandy	1.00 0.31	Very limited Slope Too sandy	1.00 0.31
183: Sheppard-----	85	Somewhat limited Too sandy Slope	0.79 0.63	Somewhat limited Too sandy Slope	0.79 0.63	Very limited Slope Too sandy	1.00 0.79
185: Frijoles-----	90	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.88 0.50
190: Zia-----	35	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00
Skyvillage-----	25	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
191: Sheppard-----	85	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Very limited Slope Too sandy	1.00 0.79

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
200: Sedillo-----	85	Very limited Slope Gravel content	1.00 0.06	Very limited Slope Gravel content	1.00 0.06	Very limited Gravel content Slope Large stones content	1.00 1.00 0.74
201: Rock outcrop-----	55	Not rated		Not rated		Not rated	
Sedgran-----	35	Very limited Slope Depth to bedrock Gravel content Too sandy	1.00 1.00 1.00 0.70	Very limited Slope Depth to bedrock Gravel content Too sandy	1.00 1.00 1.00 0.70	Very limited Gravel content Slope Depth to bedrock Too sandy Large stones content	1.00 1.00 1.00 0.70 0.68
206: Pinitos-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Dusty	1.00 0.50
207: Penistaja-----	60	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope	0.50 0.12
Zia-----	25	Not limited		Not limited		Somewhat limited Slope	0.88
208: Sedillo-----	85	Very limited Slope Gravel content	1.00 1.00	Very limited Slope Gravel content	1.00 1.00	Very limited Gravel content Slope	1.00 1.00

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
210: Ildefonso-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Large stones content	1.00
		Dusty	0.50	Dusty	0.50	Slope	1.00
		Large stones content	0.32	Large stones content	0.32	Gravel content	1.00
		Gravel content	0.09	Gravel content	0.09	Dusty	0.50
211: Zia-----	45	Not limited		Not limited		Very limited Slope	1.00
Clovis-----	30	Not limited		Not limited		Somewhat limited Slope	0.88
213: Pinavetes-----	55	Very limited Slope	1.00	Very limited Too sandy Slope	1.00	Very limited Slope	1.00
		Too sandy	1.00		1.00	Too sandy	1.00
Rock outcrop-----	30	Not rated		Not rated		Not rated	
215: Ess-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	0.18	Large stones content	0.18	Gravel content	1.00
		Gravel content	0.08	Gravel content	0.08	Large stones content	1.00
Rock outcrop-----	30	Not rated		Not rated		Not rated	
217: Witt-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope	0.88
						Dusty	0.50

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
218: Ildefonso-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Large stones content	1.00
		Large stones content	0.18	Large stones content	0.18	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Slope	1.00
		Slope	0.01	Slope	0.01	Dusty	0.50
220: Rock outcrop-----	40	Not rated		Not rated		Not rated	
Vessilla-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
						Large stones content	0.01
Menefee-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
226: Galisteo, moderately saline, sodic-----	85	Very limited Sodium content	1.00	Very limited Sodium content	1.00	Very limited Sodium content	1.00
		Salinity	1.00	Salinity	1.00	Salinity	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
227: Hagerman-----	65	Not limited		Not limited		Somewhat limited Depth to bedrock	0.16
						Slope	0.12
Bond-----	20	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
		Too sandy	0.31	Too sandy	0.31	Slope	0.88
						Too sandy	0.31
						Large stones content	0.01

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
228: Winona-----	85	Very limited Depth to bedrock Slope Gravel content	1.00 1.00 0.96	Very limited Depth to bedrock Slope Gravel content	1.00 1.00 0.96	Very limited Gravel content Slope Depth to bedrock Large stones content	1.00 1.00 1.00 0.32
230: Skyvillage-----	35	Very limited Depth to bedrock Slope	1.00 0.63	Very limited Depth to bedrock Slope	1.00 0.63	Very limited Depth to bedrock Slope	1.00 1.00
Sandoval-----	25	Very limited Depth to bedrock Slope	1.00 0.63	Very limited Depth to bedrock Slope	1.00 0.63	Very limited Depth to bedrock Slope	1.00 1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
231: Querencia-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.88 0.50
234: Querencia-----	60	Not limited		Not limited		Somewhat limited Slope	0.88
Zia-----	20	Not limited		Not limited		Somewhat limited Slope	0.88
235: Sandoval-----	85	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope	1.00 1.00

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
236: Sparank, moderately saline, sodic-----	85	Very limited Sodium content Salinity Flooding Slow water movement	1.00 1.00 1.00 0.41	Very limited Sodium content Salinity Slow water movement	1.00 1.00 0.41	Very limited Sodium content Salinity Flooding Slow water movement	1.00 1.00 0.60 0.41
237: Sparank-----	85	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
240: Penistaja-----	45	Not limited		Not limited		Somewhat limited Slope	0.12
Hagerman-----	35	Not limited		Not limited		Somewhat limited Depth to bedrock Slope	0.90 0.12
250: Pinavetes-----	90	Somewhat limited Too sandy Slope	0.79 0.16	Somewhat limited Too sandy Slope	0.79 0.16	Very limited Slope Too sandy	1.00 0.79
262: Pastura-----	90	Very limited Depth to cemented pan Dusty	1.00 0.50	Very limited Depth to cemented pan Dusty	1.00 0.50	Very limited Depth to cemented pan Dusty Slope	1.00 0.50 0.12
270: Blancot-----	40	Not limited		Not limited		Somewhat limited Slope	0.50
Councilor-----	30	Not limited		Not limited		Not limited	
Tsosie-----	25	Somewhat limited Salinity	0.50	Somewhat limited Salinity	0.50	Somewhat limited Salinity	0.50

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
281: Carjo-----	90	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope Depth to bedrock	0.96 0.88 0.84
282: Tocal-----	85	Very limited Depth to bedrock Slow water movement	1.00 0.96	Very limited Depth to bedrock Slow water movement	1.00 0.96	Very limited Depth to bedrock Slope Slow water movement	1.00 1.00 0.96
283: Mirand-----	45	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21
Alanos-----	30	Very limited Slope Slow water movement Gravel content	1.00 0.96 0.01	Very limited Slope Slow water movement Gravel content	1.00 0.96 0.01	Very limited Slope Gravel content Slow water movement Large stones content	1.00 1.00 0.96 0.88
290: Alanos-----	50	Very limited Slope Slow water movement	1.00 0.96	Very limited Slope Slow water movement	1.00 0.96	Very limited Slope Slow water movement	1.00 0.96
Rock outcrop-----	30	Not rated		Not rated		Not rated	
300: Waumac-----	50	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy Slope	0.81 0.50

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
300: Bamac-----	35	Somewhat limited Too sandy Gravel content	0.81 0.22	Somewhat limited Too sandy Gravel content	0.81 0.22	Very limited Gravel content Too sandy Slope Large stones content	1.00 0.81 0.50 0.01
301: Vastine-----	45	Very limited Flooding Depth to saturated zone	1.00 0.39	Somewhat limited Depth to saturated zone	0.19	Somewhat limited Depth to saturated zone	0.39
Jarola-----	40	Very limited Flooding Depth to saturated zone Slow water movement	1.00 0.39 0.21	Somewhat limited Slow water movement Depth to saturated zone	0.21 0.19	Somewhat limited Depth to saturated zone Slow water movement Slope	0.39 0.21 0.12
302: Tranquilar-----	50	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.88
Jarmillo-----	30	Not limited		Not limited		Somewhat limited Slope	0.88
304: Cosey-----	45	Somewhat limited Slope Slow water movement	0.37 0.21	Somewhat limited Slope Slow water movement	0.37 0.21	Very limited Slope Slow water movement	1.00 0.21
Jarmillo-----	40	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
307: Flugle-----	60	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope	0.50 0.12
Waumac-----	25	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Slope Too sandy	0.88 0.81
308: Cajete-----	85	Not limited		Not limited		Somewhat limited Gravel content Slope	0.78 0.50
311: Cosey-----	35	Somewhat limited Slope Slow water movement	0.84 0.21	Somewhat limited Slope Slow water movement	0.84 0.21	Very limited Slope Slow water movement Large stones content	1.00 0.21 0.01
Tranquilar-----	30	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Very limited Slope Slow water movement	1.00 0.96
Calaveras-----	25	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00
312: Royosa-----	90	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Very limited Too sandy Slope	1.00 0.88
314: Fragua-----	40	Somewhat limited Too sandy	0.76	Somewhat limited Too sandy	0.76	Somewhat limited Slope Too sandy	0.88 0.76

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
314: Waumac-----	30	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Somewhat limited Slope Too sandy	0.88 0.79
Royosa-----	25	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Very limited Too sandy Slope	1.00 0.88
317: Elpedro-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.88 0.50
319: Bamac-----	60	Very limited Slope Gravel content Too sandy	1.00 1.00 0.81	Very limited Slope Gravel content Too sandy	1.00 1.00 0.81	Very limited Gravel content Slope Too sandy	1.00 1.00 0.81
Rock outcrop-----	25	Not rated		Not rated		Not rated	
320: Sparham-----	85	Very limited Flooding Sodium content Slow water movement	1.00 1.00 0.41	Very limited Sodium content Slow water movement	1.00 0.41	Very limited Sodium content Flooding Slow water movement	1.00 0.60 0.41
321: Waumac-----	60	Somewhat limited Too sandy Slope	0.79 0.01	Somewhat limited Too sandy Slope	0.79 0.01	Very limited Slope Too sandy	1.00 0.79
Royosa-----	30	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Very limited Too sandy Slope	1.00 0.88

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
322: Fragua-----	85	Very limited Slope Gravel content Large stones content Too sandy	1.00 0.13 0.02 0.01	Very limited Slope Gravel content Large stones content Too sandy	1.00 0.13 0.02 0.01	Very limited Slope Gravel content Large stones content Too sandy	1.00 1.00 0.99 0.01
324: Rock outcrop-----	30	Not rated		Not rated		Not rated	
Atarque-----	25	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00
Menefee-----	25	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.44
325: Rock outcrop-----	35	Not rated		Not rated		Not rated	
Espiritu-----	25	Very limited Slope Gravel content	1.00 0.45	Very limited Slope Gravel content	1.00 0.45	Very limited Gravel content Slope Large stones content	1.00 1.00 0.16
Vessilla-----	25	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.54	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.54	Very limited Gravel content Slope Depth to bedrock Large stones content	1.00 1.00 1.00 0.01
342: Waumac-----	35	Somewhat limited Slope Too sandy	0.84 0.79	Somewhat limited Slope Too sandy	0.84 0.79	Very limited Slope Too sandy	1.00 0.79

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
342: Vessilla-----	25	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope Gravel content	1.00 1.00 0.01
Rock outcrop-----	20	Not rated		Not rated		Not rated	
345: Espiritu-----	50	Very limited Slope Gravel content	1.00 0.38	Very limited Slope Gravel content	1.00 0.38	Very limited Slope Gravel content Large stones content	1.00 1.00 0.08
Bamac-----	35	Very limited Slope Gravel content Too sandy	1.00 1.00 0.81	Very limited Slope Gravel content Too sandy	1.00 1.00 0.81	Very limited Gravel content Slope Too sandy Large stones content	1.00 1.00 0.81 0.01
346: Espiritu, cobbly----	70	Very limited Slope Large stones content	1.00 0.96	Very limited Slope Large stones content	1.00 0.96	Very limited Large stones content Slope Gravel content	1.00 1.00 0.99
Bamac-----	20	Very limited Slope Gravel content Too sandy	1.00 1.00 0.81	Very limited Slope Gravel content Too sandy	1.00 1.00 0.81	Very limited Gravel content Slope Too sandy	1.00 1.00 0.81
348: Wauquie-----	60	Very limited Slope Gravel content	1.00 0.99	Very limited Slope Gravel content	1.00 0.99	Very limited Gravel content Slope Large stones content	1.00 1.00 0.68

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
348: Rock outcrop-----	20	Not rated		Not rated		Not rated	
353: Cochiti-----	50	Very limited Slope Gravel content Dusty Large stones content	1.00 1.00 0.50 0.01	Very limited Slope Gravel content Dusty Large stones content	1.00 1.00 0.50 0.01	Very limited Gravel content Slope Large stones content Dusty	1.00 1.00 0.95 0.50
Espiritu-----	45	Very limited Slope Dusty Gravel content	1.00 0.50 0.33	Very limited Slope Dusty Gravel content	1.00 0.50 0.33	Very limited Slope Gravel content Dusty Large stones content	1.00 1.00 0.50 0.16
354: Waumac Variant-----	85	Very limited Depth to bedrock Gravel content Slope	1.00 1.00 0.01	Very limited Depth to bedrock Gravel content Slope	1.00 1.00 0.01	Very limited Gravel content Depth to bedrock Slope	1.00 1.00 1.00
358: Deama-----	35	Very limited Depth to bedrock Slope Gravel content	1.00 1.00 0.98	Very limited Depth to bedrock Slope Gravel content	1.00 1.00 0.98	Very limited Gravel content Slope Depth to bedrock Large stones content	1.00 1.00 1.00 0.20
Elpedro-----	25	Very limited Slope Gravel content Dusty	1.00 0.78 0.50	Very limited Slope Gravel content Dusty	1.00 0.78 0.50	Very limited Gravel content Slope Dusty	1.00 1.00 0.50
Rock outcrop-----	25	Not rated		Not rated		Not rated	

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
396: Atarque-----	30	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 1.00	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 1.00	Very limited Gravel content Slope Depth to bedrock Large stones content	1.00 1.00 1.00 0.32
Menefee-----	30	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.89
Rock outcrop-----	25	Not rated		Not rated		Not rated	
397: Rock outcrop-----	30	Not rated		Not rated		Not rated	
Cucho-----	25	Very limited Slope Gravel content	1.00 0.92	Very limited Slope Gravel content	1.00 0.92	Very limited Gravel content Slope Depth to bedrock	1.00 1.00 0.03
Vessilla-----	25	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.01	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.01	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 1.00
398: Espiritu-----	45	Very limited Slope Gravel content	1.00 0.38	Very limited Slope Gravel content	1.00 0.38	Very limited Gravel content Slope Large stones content	1.00 1.00 0.08
Cucho-----	35	Very limited Slope Gravel content	1.00 0.99	Very limited Slope Gravel content	1.00 0.99	Very limited Gravel content Slope Depth to bedrock	1.00 1.00 0.03

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
399: Cucho-----	45	Very limited Slope Gravel content	1.00 0.99	Very limited Slope Gravel content	1.00 0.99	Very limited Gravel content Slope Depth to bedrock	1.00 1.00 0.03
Teco-----	35	Very limited Slope Slow water movement Gravel content	1.00 0.41 0.03	Very limited Slope Slow water movement Gravel content	1.00 0.41 0.03	Very limited Slope Gravel content Large stones content Slow water movement	1.00 1.00 0.68 0.41
405: Charo-----	50	Somewhat limited Slow water movement Large stones content Gravel content	0.96 0.76 0.01	Somewhat limited Slow water movement Large stones content Gravel content	0.96 0.76 0.01	Very limited Gravel content Slow water movement Large stones content Depth to bedrock Large stones content	1.00 0.96 0.76 0.65 0.46
Charo, noncobbly----	40	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Large stones content Gravel content	0.96 0.01 0.01
409: Santa Fe-----	85	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.83	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.83	Very limited Gravel content Slope Depth to bedrock Large stones content	1.00 1.00 1.00 0.01

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
410: Zia-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
414: Wauquie-----	85	Very limited Slope Gravel content	1.00 0.18	Very limited Slope Gravel content	1.00 0.18	Very limited Slope Gravel content Large stones content	1.00 1.00 0.16
417: Jocity-----	85	Very limited Flooding Dusty	1.00 0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
418: Jocity-----	85	Very limited Flooding	1.00	Not limited		Not limited	
419: Santa Fe-----	40	Very limited Slope Depth to bedrock Gravel content Large stones content	1.00 1.00 0.61 0.12	Very limited Slope Depth to bedrock Gravel content Large stones content	1.00 1.00 0.61 0.12	Very limited Gravel content Slope Depth to bedrock Large stones content	1.00 1.00 1.00 1.00
Wauquie-----	30	Very limited Slope Gravel content Large stones content	1.00 1.00 0.02	Very limited Slope Gravel content Large stones content	1.00 1.00 0.02	Very limited Gravel content Slope Large stones content	1.00 1.00 0.99
Rock outcrop-----	20	Not rated		Not rated		Not rated	
420: Pinavetes-----	85	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
421: Gilco, moderately saline, sodic-----	90	Very limited Sodium content Salinity Flooding Dusty	1.00 1.00 1.00 0.50	Very limited Sodium content Salinity Dusty	1.00 1.00 0.50	Very limited Sodium content Salinity Dusty	1.00 1.00 0.50
422: Vessilla-----	35	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope Large stones content	1.00 1.00 0.01
Menefee-----	30	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Slope	1.00 1.00
Orlie-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.50 0.50
423: Gilco-----	85	Very limited Flooding Dusty	1.00 0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope Gravel content	0.50 0.12 0.04
426: Aga, moderately saline, sodic-----	85	Very limited Sodium content Salinity Flooding Dusty	1.00 1.00 1.00 0.50	Very limited Sodium content Salinity Dusty	1.00 1.00 0.50	Very limited Sodium content Salinity Dusty	1.00 1.00 0.50
427: Aga-----	85	Very limited Flooding Dusty	1.00 0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
428: Aga, moderately saline, sodic-----	85	Very limited Sodium content Salinity Flooding Dusty	1.00 1.00 1.00 0.50	Very limited Sodium content Salinity Dusty	1.00 1.00 0.50	Very limited Sodium content Salinity Dusty	1.00 1.00 0.50
430: Trail-----	85	Very limited Flooding Dusty	1.00 0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
431: Trail-----	85	Very limited Flooding Too sandy	1.00 0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81
433: Peralta-----	85	Very limited Flooding Salinity	1.00 0.50	Somewhat limited Salinity	0.50	Somewhat limited Salinity	0.50
434: Peralta-----	85	Very limited Flooding Salinity	1.00 0.50	Somewhat limited Salinity	0.50	Somewhat limited Salinity	0.50
437: Peralta, moderately saline, sodic-----	85	Very limited Sodium content Salinity Flooding	1.00 1.00 1.00	Very limited Sodium content Salinity	1.00 1.00	Very limited Sodium content Salinity	1.00 1.00
500: Rock outcrop-----	40	Not rated		Not rated		Not rated	
Osha-----	30	Very limited Slope Gravel content	1.00 0.42	Very limited Slope Gravel content	1.00 0.42	Very limited Gravel content Slope	1.00 1.00
Rubble land-----	20	Not rated		Not rated		Not rated	

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
503: Cajete-----	65	Very limited Gravel content Slope	1.00 1.00	Very limited Gravel content Slope	1.00 1.00	Very limited Gravel content Slope	1.00 1.00
Cypher-----	25	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.96	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.96	Very limited Gravel content Slope Depth to bedrock Large stones content	1.00 1.00 1.00 0.32
504: Orejas-----	40	Very limited Depth to bedrock Slope Large stones content	1.00 0.16 0.12	Very limited Depth to bedrock Slope Large stones content	1.00 0.16 0.12	Very limited Depth to bedrock Slope Large stones content Gravel content	1.00 1.00 1.00 0.97
Guaje-----	35	Not limited		Not limited		Somewhat limited Slope Gravel content	0.88 0.78
600: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Cypher-----	35	Very limited Slope Depth to bedrock Large stones content Gravel content	1.00 1.00 0.35 0.01	Very limited Slope Depth to bedrock Large stones content Gravel content	1.00 1.00 0.35 0.01	Very limited Slope Depth to bedrock Large stones content Gravel content	1.00 1.00 1.00 1.00
601: Laventana-----	85	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Very limited Slope Gravel content	1.00 0.94
603: Laventana-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
603: Mirand-----	35	Very limited Slope Slow water movement Gravel content	1.00 0.96 0.36	Very limited Slope Slow water movement Gravel content	1.00 0.96 0.36	Very limited Gravel content Slope Slow water movement Large stones content	1.00 1.00 0.96 0.46
604: Cypher-----	55	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00
Mirand-----	30	Very limited Slope Slow water movement Gravel content	1.00 0.96 0.28	Very limited Slope Slow water movement Gravel content	1.00 0.96 0.28	Very limited Gravel content Slope Slow water movement Large stones content	1.00 1.00 0.96 0.38
608: Osha, steep-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.78
Osha-----	30	Very limited Slope Gravel content	1.00 0.01	Very limited Slope Gravel content	1.00 0.01	Very limited Gravel content Slope	1.00 1.00
823: Gilco, unprotected--	85	Very limited Flooding Dusty	1.00 0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope Gravel content	0.50 0.12 0.04
827: Aga, unprotected----	85	Very limited Flooding Dusty	1.00 0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50

Table 9A.--Camp areas, picnic areas, and playgrounds--continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
830: Trail, unprotected--	85	Very limited Flooding Dusty	1.00 0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
831: Trail, unprotected--	85	Very limited Flooding Too sandy	1.00 0.81	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81
835: Peralta, unprotected	85	Very limited Flooding Salinity	1.00 0.50	Somewhat limited Salinity	0.50	Somewhat limited Flooding Salinity	0.60 0.50
842: Peralta, moderately saline, sodic, unprotected-----	85	Very limited Sodium content Salinity Flooding	1.00 1.00 1.00	Very limited Sodium content Salinity	1.00 1.00	Very limited Sodium content Salinity	1.00 1.00
850: Water-----	95	Not rated		Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated		Not rated	

Table 9B.--Paths, trails, and golf fairways

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1: Silver-----	55	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
Clovis-----	35	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
2: Clovis-----	35	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
Prieta-----	35	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited	
		Large stones	0.18	Large stones	0.18	Depth to bedrock	1.00
		content		content		Droughty	1.00
						Large stones	1.00
						content	
						Gravel content	0.08
						Slope	0.04
Silver-----	20	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
3: Montecito-----	60	Not limited		Not limited		Somewhat limited	
						Large stones	0.01
						content	
Orejas-----	30	Somewhat limited Large stones	0.02	Somewhat limited Large stones	0.02	Very limited	
		content		content		Depth to bedrock	1.00
						Droughty	1.00
						Large stones	0.99
						content	

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
4: Montecito-----	45	Somewhat limited Slope	0.08	Not limited		Very limited Slope Large stones content	1.00 0.01
Montecito, bouldery-	35	Somewhat limited Large stones content Dusty Slope	0.68 0.50 0.08	Somewhat limited Large stones content Dusty	0.68 0.50	Very limited Large stones content Slope Gravel content	1.00 1.00 0.05
10: Trail-----	85	Not limited		Not limited		Somewhat limited Droughty	0.27
11: Trail-----	85	Not limited		Not limited		Somewhat limited Flooding Droughty	0.60 0.08
13: Sandoval-----	65	Not limited		Not limited		Very limited Depth to bedrock Droughty	1.00 0.59
Querencia-----	20	Not limited		Not limited		Not limited	
15: Camino-----	40	Not limited		Not limited		Not limited	
Sandoval-----	35	Not limited		Not limited		Very limited Depth to bedrock Droughty	1.00 0.25
16: Prieta-----	30	Very limited Large stones content Dusty	1.00 0.50	Very limited Large stones content Dusty	1.00 0.50	Very limited Depth to bedrock Droughty Large stones content Slope	1.00 0.99 0.08 0.04

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17: Vessilla-----	35	Not limited		Not limited		Very limited Depth to bedrock Droughty Slope	1.00 1.00 0.04
Menefee-----	25	Not limited		Not limited		Very limited Depth to bedrock Droughty Slope	1.00 0.99 0.04
18: Sparham-----	85	Somewhat limited Too clayey	0.50	Somewhat limited Too clayey	0.50	Very limited Too clayey Sodium content Flooding	1.00 1.00 0.60
20: Gilco-----	85	Not limited		Not limited		Not limited	
21: Hackroy-----	25	Not limited		Not limited		Very limited Depth to bedrock Droughty	1.00 1.00
22: Aga-----	85	Not limited		Not limited		Not limited	
23: Hickman-----	85	Not limited		Not limited		Not limited	
24: Orlie-----	45	Not limited		Not limited		Not limited	
Sparham-----	35	Somewhat limited Too clayey	0.50	Somewhat limited Too clayey	0.50	Very limited Too clayey Sodium content Flooding	1.00 1.00 0.60
25: Gilco-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
26: Orlie-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
27: Aga-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
29: Trail-----	85	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.69
34: Ildefonso-----	55	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Large stones content Droughty	0.92 0.07
Witt-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
47: Cascajo-----	85	Somewhat limited Slope	0.68	Not limited		Very limited Droughty Slope Gravel content Large stones content	1.00 1.00 0.98 0.61
51: Sparham-----	85	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone	1.00	Very limited Depth to saturated zone Sodium content Flooding Salinity	1.00 1.00 0.60 0.13
52: Totavi-----	85	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.69

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
53: Witt-----	55	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
Harvey-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
54: Harvey-----	45	Somewhat limited Too sandy	0.01	Somewhat limited Too sandy	0.01	Somewhat limited Slope	0.16
Cascajo-----	40	Not limited		Not limited		Very limited Droughty Gravel content Slope Large stones content	1.00 0.71 0.16 0.08
55: La Fonda-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
56: Ildefonso-----	85	Very limited Slope Dusty	1.00 0.50	Somewhat limited Dusty	0.50	Very limited Slope Large stones content Droughty	1.00 0.84 0.01
58: Deama-----	45	Very limited Large stones content Slope Large stones content	1.00 0.92 0.02	Very limited Large stones content Large stones content	1.00 0.02	Very limited Depth to bedrock Slope Droughty Carbonate content Large stones content	1.00 1.00 1.00 1.00 0.99

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
58: Elpedro-----	35	Very limited Water erosion Dusty	1.00 0.50	Very limited Water erosion Dusty	1.00 0.50	Somewhat limited Slope	0.04
59: Harvey-----	35	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
Ildefonso-----	35	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Droughty Slope Large stones content	0.65 0.37 0.08
La Fonda-----	15	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
63: Placitas-----	85	Somewhat limited Slope Dusty	0.98 0.50	Somewhat limited Dusty	0.50	Very limited Droughty Slope Depth to bedrock Gravel content	1.00 1.00 0.71 0.08
64: Skyvillage-----	40	Somewhat limited Slope	0.08	Not limited		Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.91
Ildefonso-----	35	Somewhat limited Slope Large stones content	0.98 0.76	Somewhat limited Large stones content	0.76	Very limited Slope Droughty Gravel content Large stones content	1.00 0.88 0.11 0.05

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65: Ildefonso-----	50	Somewhat limited Slope	0.92	Somewhat limited Large stones content	0.76	Very limited Slope	1.00
		Large stones content	0.76			Gravel content	0.99
						Droughty Large stones content	0.92 0.32
Harvey-----	30	Very limited Water erosion Dusty	1.00 0.50	Very limited Water erosion Dusty	1.00 0.50	Somewhat limited Slope	0.84
66: Zia-----	85	Not limited		Not limited		Not limited	
67: Sandoval-----	40	Very limited Water erosion Dusty Slope	1.00 0.50 0.08	Very limited Water erosion Dusty	1.00 0.50	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.98
Poley-----	35	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Slope Large stones content Gravel content	1.00 0.92 0.75
68: Penistaja-----	45	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Not limited	
Querencia-----	35	Not limited		Not limited		Not limited	
71: Palon-----	85	Very limited Slope	1.00	Not limited		Very limited Slope Droughty Large stones content	1.00 0.98 0.46

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
72: Palon-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Droughty	1.00 0.99
74: Origo-----	50	Very limited Slope	1.00	Not limited		Very limited Slope Droughty Gravel content Large stones content	1.00 1.00 0.45 0.08
Pavo-----	25	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.84
75: Origo-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Droughty	1.00 0.77
82: Calaveras-----	85	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion	1.00	Very limited Slope Droughty	1.00 0.64
83: Calaveras-----	60	Very limited Slope Water erosion	1.00 1.00	Very limited Water erosion Slope	1.00 1.00	Very limited Slope Droughty	1.00 0.56
85: Redondo-----	85	Very limited Slope	1.00	Not limited		Very limited Slope Droughty	1.00 0.06
86: Redondo-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Droughty Large stones content	1.00 1.00 0.20

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
87: Redondo-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Droughty Large stones content	1.00 0.91 0.20
88: Totavi-----	45	Not limited		Not limited		Somewhat limited Droughty	0.20
Jemez-----	30	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Depth to bedrock Slope	0.71 0.16
91: Zia-----	85	Not limited		Not limited		Not limited	
92: Galisteo, moderately saline, sodic-----	85	Not limited		Not limited		Very limited Salinity	1.00
93: Zia-----	85	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Not limited	
95: El Rancho-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
97: El Rancho-----	85	Not limited		Not limited		Not limited	
100: Orejas-----	40	Very limited Slope	1.00	Somewhat limited Large stones content	0.18	Very limited Depth to bedrock	1.00
		Large stones content	0.18	Slope	0.08	Slope	1.00
						Droughty Large stones content	1.00 1.00

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
101: Blancot-----	55	Not limited		Not limited		Not limited	
Lybrook-----	25	Not limited		Not limited		Very limited Sodium content	1.00
102: Sparham-----	85	Not limited		Not limited		Very limited Sodium content Flooding	1.00 0.60
104: Cochiti-----	50	Somewhat limited Dusty Slope	0.50 0.08	Somewhat limited Dusty	0.50	Very limited Slope Droughty Large stones content	1.00 0.07 0.01
Montecito-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
105: Menefee-----	30	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion	1.00	Very limited Depth to bedrock Slope Droughty	1.00 1.00 1.00
106: Stumble-----	50	Very limited Slope	1.00	Not limited		Very limited Slope Droughty Gravel content	1.00 0.98 0.92
Stumble, sandy-----	30	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Very limited Droughty Gravel content	1.00 0.03
108: Embudo-----	85	Not limited		Not limited		Somewhat limited Gravel content Slope	0.01 0.01

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
109: Embudo-----	50	Not limited		Not limited		Somewhat limited Droughty	0.50
Tijeras-----	35	Not limited		Not limited		Somewhat limited Droughty	0.01
110: Saído-----	40	Very limited Water erosion Slope Dusty	1.00 0.92 0.50	Very limited Water erosion Dusty	1.00 0.50	Very limited Slope Salinity	1.00 0.13
111: Zia-----	35	Somewhat limited Slope	0.08	Not limited		Very limited Slope	1.00
112: Tijeras-----	85	Not limited		Not limited		Somewhat limited Large stones content	0.01
114: San Mateo-----	40	Not limited		Not limited		Not limited	
Zia-----	40	Not limited		Not limited		Not limited	
120: Pinavetes-----	85	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.99
129: Menefee-----	85	Somewhat limited Slope	0.50	Not limited		Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.17
130: Pinavetes-----	45	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.69

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
130: Galisteo, moderately saline, sodic-----	40	Not limited		Not limited		Very limited Salinity Sodium content	1.00 1.00
142: Grieta-----	85	Not limited		Not limited		Not limited	
143: Clovis-----	85	Not limited		Not limited		Not limited	
145: Grieta-----	55	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Not limited	
Sheppard-----	40	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Somewhat limited Droughty	0.09
146: Sedmar-----	85	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Very limited Depth to bedrock Droughty Slope	1.00 1.00 0.01
150: Doakum-----	55	Not limited		Not limited		Not limited	
Betonnies-----	35	Not limited		Not limited		Not limited	
162: Hackroy-----	45	Not limited		Not limited		Very limited Depth to bedrock Droughty	1.00 1.00
Nyjack-----	40	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Depth to bedrock	0.01
163: Jemez-----	85	Not limited		Not limited		Somewhat limited Depth to bedrock Slope	0.01 0.01

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
170: San Mateo-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Sodium content	1.00
180: Councelor-----	40	Somewhat limited Slope	0.18	Not limited		Very limited Slope	1.00
Eslendo-----	30	Somewhat limited Slope	0.18	Not limited		Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.99
Mespun-----	25	Somewhat limited Too sandy Slope	0.31 0.18	Somewhat limited Too sandy	0.31	Very limited Slope Droughty	1.00 0.29
183: Sheppard-----	85	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Somewhat limited Slope Droughty	0.63 0.09
185: Frijoles-----	90	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Droughty	1.00
190: Zia-----	35	Not limited		Not limited		Somewhat limited Slope	0.84
Skyvillage-----	25	Somewhat limited Slope	0.92	Not limited		Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.96
191: Sheppard-----	85	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Somewhat limited Droughty	0.09

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
200: Sedillo-----	85	Not limited		Not limited		Very limited Droughty Slope Large stones content Gravel content	1.00 1.00 0.74 0.06
201: Sedgran-----	35	Very limited Slope Too sandy	1.00 0.70	Very limited Slope Too sandy	1.00 0.70	Very limited Depth to bedrock Slope Droughty Gravel content Large stones content	1.00 1.00 1.00 1.00 0.68
206: Pinitos-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
207: Penistaja-----	60	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
Zia-----	25	Not limited		Not limited		Not limited	
208: Sedillo-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content Droughty	1.00 1.00 0.89
210: Ildefonso-----	85	Very limited Slope Dusty Large stones content	1.00 0.50 0.32	Very limited Slope Dusty Large stones content	1.00 0.50 0.32	Very limited Slope Large stones content Droughty Gravel content	1.00 1.00 0.34 0.09

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
211: Zia-----	45	Not limited		Not limited		Not limited	
Clovis-----	30	Not limited		Not limited		Not limited	
213: Pinavetes-----	55	Very limited Too sandy Slope	1.00 1.00	Very limited Too sandy	1.00	Very limited Slope Droughty Too sandy	1.00 1.00 0.50
215: Ess-----	60	Very limited Slope Large stones content	1.00 0.18	Somewhat limited Large stones content	0.18	Very limited Large stones content Slope Droughty Gravel content	1.00 1.00 0.65 0.08
217: Witt-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
218: Ildefonso-----	85	Somewhat limited Dusty Large stones content	0.50 0.18	Somewhat limited Dusty Large stones content	0.50 0.18	Very limited Large stones content Droughty Gravel content Slope	1.00 0.80 0.01 0.01
220: Vessilla-----	30	Very limited Slope	1.00	Somewhat limited Slope	0.78	Very limited Depth to bedrock Slope Droughty Large stones content	1.00 1.00 1.00 0.01

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
220: Menefee-----	20	Very limited Slope	1.00	Somewhat limited Slope	0.78	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.99
226: Galisteo, moderately saline, sodic-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Salinity Sodium content	1.00 1.00
227: Hagerman-----	65	Not limited		Not limited		Somewhat limited Depth to bedrock	0.16
Bond-----	20	Somewhat limited Too sandy	0.31	Somewhat limited Too sandy	0.31	Very limited Depth to bedrock Droughty Large stones content	1.00 1.00 0.01
228: Winona-----	85	Somewhat limited Slope	0.08	Not limited		Very limited Depth to bedrock Droughty Slope Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.96
230: Skyvillage-----	35	Not limited		Not limited		Very limited Depth to bedrock Droughty Slope	1.00 1.00 0.63
Sandoval-----	25	Not limited		Not limited		Very limited Depth to bedrock Droughty Slope	1.00 0.99 0.63

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
231: Querencia-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
234: Querencia-----	60	Not limited		Not limited		Not limited	
Zia-----	20	Not limited		Not limited		Not limited	
235: Sandoval-----	85	Not limited		Not limited		Very limited Depth to bedrock Droughty Slope	1.00 0.05 0.04
236: Sparank, moderately saline, sodic-----	85	Not limited		Not limited		Very limited Salinity Sodium content Flooding	1.00 1.00 0.60
237: Sparank-----	85	Not limited		Not limited		Somewhat limited Flooding	0.60
240: Penistaja-----	45	Not limited		Not limited		Not limited	
Hagerman-----	35	Not limited		Not limited		Somewhat limited Depth to bedrock	0.90
250: Pinavetes-----	90	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Somewhat limited Droughty Slope	0.63 0.16
262: Pastura-----	90	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Depth to cemented pan Droughty	1.00 1.00

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
270: Blancot-----	40	Not limited		Not limited		Not limited	
Councilor-----	30	Not limited		Not limited		Not limited	
Tsowie-----	25	Not limited		Not limited		Somewhat limited Salinity	0.50
281: Carjo-----	90	Not limited		Not limited		Somewhat limited Depth to bedrock	0.84
282: Tocal-----	85	Not limited		Not limited		Very limited Depth to bedrock Droughty	1.00 0.87
283: Mirand-----	45	Very limited Water erosion Slope	1.00 0.18	Very limited Water erosion	1.00	Very limited Slope	1.00
Alanos-----	30	Somewhat limited Slope	0.92	Not limited		Very limited Slope Large stones content Droughty Gravel content	1.00 0.88 0.38 0.01
290: Alanos-----	50	Very limited Water erosion Slope	1.00 1.00	Very limited Water erosion Slope	1.00 0.22	Very limited Slope Droughty	1.00 0.21
300: Waumac-----	50	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Not limited	
Bamac-----	35	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Very limited Droughty Gravel content Large stones content	1.00 0.22 0.01

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
301: Vastine-----	45	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.19
Jarola-----	40	Not limited		Not limited		Somewhat limited Depth to saturated zone	0.19
302: Tranquilar-----	50	Not limited		Not limited		Not limited	
Jarmillo-----	30	Not limited		Not limited		Not limited	
304: Cosey-----	45	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.37
Jarmillo-----	40	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.37
307: Flugle-----	60	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
Waumac-----	25	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Not limited	
308: Cajete-----	85	Not limited		Not limited		Somewhat limited Droughty	0.20
311: Cosey-----	35	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope Large stones content	0.84 0.01
Tranquilar-----	30	Not limited		Not limited		Not limited	
Calaveras-----	25	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.84

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
312: Royosa-----	90	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Somewhat limited Droughty Too sandy	0.95 0.50
314: Fragua-----	40	Somewhat limited Too sandy	0.76	Somewhat limited Too sandy	0.76	Not limited	
Waumac-----	30	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Not limited	
Royosa-----	25	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Somewhat limited Droughty	0.92
317: Elpedro-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
319: Bamac-----	60	Very limited Slope Too sandy	1.00 0.81	Somewhat limited Too sandy Slope	0.81 0.78	Very limited Slope Droughty Gravel content	1.00 1.00 1.00
320: Sparham-----	85	Not limited		Not limited		Very limited Sodium content Flooding	1.00 0.60
321: Waumac-----	60	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Somewhat limited Slope	0.01
Royosa-----	30	Very limited Too sandy	1.00	Very limited Too sandy	1.00	Somewhat limited Droughty	0.92
322: Fragua-----	85	Very limited Slope Large stones content Too sandy	1.00 0.02 0.01	Very limited Slope Large stones content Too sandy	1.00 0.02 0.01	Very limited Slope Large stones content Gravel content	1.00 0.99 0.13

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
324: Atarque-----	25	Not limited		Not limited		Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.99
Menefee-----	25	Somewhat limited Slope	0.08	Not limited		Very limited Depth to bedrock Droughty Slope	1.00 1.00 1.00
325: Espiritu-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content Droughty Large stones content	1.00 0.45 0.21 0.16
Vessilla-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Droughty Gravel content Large stones content	1.00 1.00 1.00 0.54 0.01
342: Waumac-----	35	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Somewhat limited Slope	0.84
Vessilla-----	25	Somewhat limited Slope	0.92	Not limited		Very limited Depth to bedrock Droughty Slope	1.00 1.00 1.00
345: Espiritu-----	50	Very limited Slope	1.00	Somewhat limited Slope	0.78	Very limited Slope Droughty Gravel content Large stones content	1.00 0.47 0.38 0.08

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
345: Bamac-----	35	Very limited Slope Too sandy	1.00 0.81	Somewhat limited Too sandy Slope	0.81 0.78	Very limited Slope Droughty Gravel content Large stones content	1.00 1.00 1.00 0.01
346: Espiritu, cobbly----	70	Very limited Slope Large stones content	1.00 0.96	Somewhat limited Large stones content Slope	0.96 0.08	Very limited Slope Large stones content Droughty	1.00 1.00 0.92
Bamac-----	20	Very limited Slope Too sandy	1.00 0.81	Somewhat limited Too sandy Slope	0.81 0.08	Very limited Slope Droughty Gravel content	1.00 1.00 1.00
348: Wauquie-----	60	Very limited Slope	1.00	Somewhat limited Slope	0.78	Very limited Slope Gravel content Large stones content Droughty	1.00 0.99 0.68 0.58
353: Cochiti-----	50	Very limited Slope Dusty Large stones content	1.00 0.50 0.01	Somewhat limited Dusty Slope Large stones content	0.50 0.08 0.01	Very limited Slope Gravel content Large stones content Droughty	1.00 1.00 0.95 0.66
Espiritu-----	45	Very limited Slope Dusty	1.00 0.50	Very limited Slope Dusty	1.00 0.50	Very limited Slope Droughty Gravel content Large stones content	1.00 1.00 0.33 0.16

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
354: Waumac Variant-----	85	Not limited		Not limited		Very limited Depth to bedrock Droughty Gravel content Slope	1.00 1.00 1.00 0.01
358: Deama-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Depth to bedrock Droughty Slope Carbonate content Gravel content	1.00 1.00 1.00 1.00 0.98
Elpedro-----	25	Very limited Slope Dusty	1.00 0.50	Somewhat limited Slope Dusty	0.56 0.50	Very limited Slope Gravel content	1.00 0.78
396: Atarque-----	30	Very limited Slope	1.00	Somewhat limited Slope	0.78	Very limited Depth to bedrock Slope Gravel content Droughty Large stones content	1.00 1.00 1.00 0.41 0.32
Menefee-----	30	Very limited Slope	1.00	Somewhat limited Slope	0.78	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.72
397: Cucho-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content Depth to bedrock	1.00 0.92 0.03

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
397: Vessilla-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Droughty Gravel content	1.00 1.00 1.00 0.01
398: Espiritu-----	45	Very limited Slope	1.00	Somewhat limited Slope	0.44	Very limited Slope Droughty Gravel content Large stones content	1.00 0.91 0.38 0.08
Cucho-----	35	Very limited Slope	1.00	Somewhat limited Slope	0.78	Very limited Slope Gravel content Depth to bedrock	1.00 0.99 0.03
399: Cucho-----	45	Very limited Slope	1.00	Somewhat limited Slope	0.08	Very limited Slope Gravel content Depth to bedrock	1.00 0.99 0.03
Teco-----	35	Somewhat limited Slope	0.98	Not limited		Very limited Slope Large stones content Gravel content	1.00 0.68 0.03
405: Charo-----	50	Somewhat limited Large stones content	0.76	Somewhat limited Large stones content	0.76	Somewhat limited Depth to bedrock Large stones content Gravel content	0.65 0.46 0.01

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
405: Charo, noncobbly----	40	Not limited		Not limited		Somewhat limited Depth to bedrock Large stones content	0.01 0.01
409: Santa Fe-----	85	Very limited Slope	1.00	Somewhat limited Slope	0.08	Very limited Depth to bedrock Slope Droughty Gravel content Large stones content	1.00 1.00 1.00 0.83 0.01
410: Zia-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
414: Wauquie-----	85	Somewhat limited Slope	0.08	Not limited		Very limited Slope Droughty Gravel content Large stones content	1.00 0.82 0.18 0.16
417: Jocity-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
418: Jocity-----	85	Not limited		Not limited		Not limited	
419: Santa Fe-----	40	Very limited Slope Large stones content	1.00 0.12	Very limited Slope Large stones content	1.00 0.12	Very limited Depth to bedrock Slope Droughty Large stones content Gravel content	1.00 1.00 1.00 1.00 0.61

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
419: Wauquie-----	30	Very limited Slope Large stones content	1.00 0.02	Very limited Slope Large stones content	1.00 0.02	Very limited Slope Droughty Gravel content Large stones content	1.00 1.00 1.00 0.99
420: Pinavetes-----	85	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Very limited Droughty	1.00
421: Gilco, moderately saline, sodic-----	90	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Salinity Sodium content	1.00 1.00
422: Vessilla-----	35	Somewhat limited Slope	0.18	Not limited		Very limited Depth to bedrock Droughty Slope Large stones content	1.00 1.00 1.00 0.01
Menefee-----	30	Not limited		Not limited		Very limited Depth to bedrock Droughty	1.00 0.99
Orlie-----	25	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
423: Gilco-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
426: Aga, moderately saline, sodic-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Salinity Sodium content	1.00 1.00

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
427: Aga-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
428: Aga, moderately saline, sodic-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Salinity Sodium content	1.00 1.00
430: Trail-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Droughty	0.08
431: Trail-----	85	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.20
433: Peralta-----	85	Not limited		Not limited		Somewhat limited Salinity	0.50
434: Peralta-----	85	Not limited		Not limited		Somewhat limited Salinity	0.50
437: Peralta, moderately saline, sodic-----	85	Not limited		Not limited		Very limited Salinity Sodium content	1.00 1.00
500: Osha-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Droughty Gravel content	1.00 1.00 0.42
503: Cajete-----	65	Somewhat limited Slope	0.32	Not limited		Very limited Gravel content Slope Droughty	1.00 1.00 0.99

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
503: Cypher-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Droughty Gravel content Large stones content	1.00 1.00 1.00 0.96 0.32
504: Orejas-----	40	Somewhat limited Large stones content	0.12	Somewhat limited Large stones content	0.12	Very limited Depth to bedrock Droughty Large stones content Slope	1.00 1.00 1.00 0.16
Guaje-----	35	Not limited		Not limited		Somewhat limited Droughty	0.99
600: Cypher-----	35	Very limited Slope Large stones content	1.00 0.35	Very limited Slope Large stones content	1.00 0.35	Very limited Depth to bedrock Slope Droughty Large stones content Gravel content	1.00 1.00 1.00 1.00 0.01
601: Laventana-----	85	Not limited		Not limited		Somewhat limited Droughty Slope	0.30 0.04
603: Laventana-----	50	Very limited Slope	1.00	Somewhat limited Slope	0.96	Very limited Slope Droughty	1.00 0.01

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
603: Mirand-----	35	Somewhat limited Slope	0.50	Not limited		Very limited Slope Large stones content Gravel content	1.00 0.46 0.36
604: Cypher-----	55	Very limited Slope	1.00	Not limited		Very limited Depth to bedrock Slope Droughty	1.00 1.00 1.00
Mirand-----	30	Very limited Slope	1.00	Somewhat limited Slope	0.78	Very limited Slope Large stones content Gravel content	1.00 0.38 0.28
608: Osha, steep-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Droughty	1.00 1.00
Osha-----	30	Somewhat limited Slope	0.32	Not limited		Very limited Droughty Slope Gravel content	1.00 1.00 0.01
823: Gilco, unprotected--	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
827: Aga, unprotected----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
830: Trail, unprotected--	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Droughty	0.01

Table 9B.--Paths, trails, and golf fairways--continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
831: Trail, unprotected--	85	Somewhat limited Too sandy	0.81	Somewhat limited Too sandy	0.81	Somewhat limited Droughty	0.87
835: Peralta, unprotected	85	Not limited		Not limited		Somewhat limited Flooding Salinity	0.60 0.50
842: Peralta, moderately saline, sodic, unprotected-----	85	Not limited		Not limited		Very limited Salinity Sodium content	1.00 1.00

Table 10A.--Dwellings and small commercial buildings

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1: Silver-----	55	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Clovis-----	35	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
2: Clovis-----	35	Not limited		Not limited		Somewhat limited Slope	0.50
Prieta-----	35	Very limited Depth to hard bedrock Shrink-swell Large stones content Slope	1.00 0.50 0.43 0.04	Very limited Depth to hard bedrock Shrink-swell Large stones content Slope	1.00 0.50 0.43 0.04	Very limited Depth to hard bedrock Slope Shrink-swell Large stones content	1.00 1.00 0.50 0.43
Silver-----	20	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.50 0.50
3: Montecito-----	60	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Orejas-----	30	Very limited Depth to hard bedrock Large stones content Shrink-swell	1.00 0.67 0.50	Very limited Depth to hard bedrock Large stones content Shrink-swell	1.00 0.67 0.50	Very limited Depth to hard bedrock Large stones content Shrink-swell	1.00 0.67 0.50

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
4: Montecito-----	45	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Montecito, bouldery-	35	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
10: Trail-----	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.15	Very limited Flooding	1.00
11: Trail-----	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.15	Very limited Flooding	1.00
13: Sandoval-----	65	Somewhat limited Shrink-swell	0.50	Very limited Depth to soft bedrock	1.00	Somewhat limited Depth to soft bedrock	1.00
		Depth to soft bedrock	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.12
Querencia-----	20	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
15: Camino-----	40	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
Sandoval-----	35	Somewhat limited Shrink-swell	0.50	Very limited Depth to soft bedrock	1.00	Somewhat limited Depth to soft bedrock	1.00
		Depth to soft bedrock	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.12

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
16: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Prieta-----	30	Very limited Depth to hard bedrock Shrink-swell Large stones content Slope	1.00 0.50 0.06 0.04	Very limited Depth to hard bedrock Shrink-swell Large stones content Slope	1.00 0.50 0.06 0.04	Very limited Depth to hard bedrock Slope Shrink-swell Large stones content	1.00 1.00 0.50 0.06
17: Vessilla-----	35	Very limited Depth to hard bedrock Slope	1.00 0.04	Very limited Depth to hard bedrock Slope	1.00 0.04	Very limited Depth to hard bedrock Slope	1.00 1.00
Menefee-----	25	Somewhat limited Shrink-swell Depth to soft bedrock Slope	0.50 0.50 0.04	Very limited Depth to soft bedrock Shrink-swell Slope	1.00 0.50 0.04	Very limited Depth to soft bedrock Slope Shrink-swell	1.00 1.00 0.50
Rock outcrop-----	20	Not rated		Not rated		Not rated	
18: Sparham-----	85	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50
20: Gilco-----	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.15	Very limited Flooding	1.00
21: Rock outcrop-----	60	Not rated		Not rated		Not rated	

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
21: Hackroy-----	25	Very limited Depth to hard bedrock Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to hard bedrock	1.00 1.00	Very limited Depth to hard bedrock Shrink-swell Slope	1.00 1.00 0.12
22: Aga-----	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.47	Very limited Flooding	1.00
23: Hickman-----	85	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50
24: Orlie-----	45	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Sparham-----	35	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell	1.00 1.00
25: Gilco-----	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.15	Very limited Flooding	1.00
26: Orlie-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
27: Aga-----	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.47	Very limited Flooding	1.00

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
29: Trail-----	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.15	Very limited Flooding	1.00
31: Riverwash-----	90	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
33: Pits-----	100	Not rated		Not rated		Not rated	
34: Ildefonso-----	55	Somewhat limited Large stones content	0.70	Somewhat limited Large stones content	0.70	Somewhat limited Large stones content Slope	0.70 0.12
Witt-----	30	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
41: Dune land-----	100	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
47: Cascajo-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
51: Sparham-----	85	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
52: Totavi-----	85	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
53: Witt-----	55	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Harvey-----	30	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
54: Harvey-----	45	Somewhat limited Shrink-swell Slope	0.50 0.16	Somewhat limited Shrink-swell Slope	0.50 0.16	Very limited Slope Shrink-swell	1.00 0.50
Cascajo-----	40	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
55: La Fonda-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
56: Ildefonso-----	85	Very limited Slope Large stones content Shrink-swell	1.00 0.53 0.50	Very limited Slope Large stones content Shrink-swell	1.00 0.53 0.50	Very limited Slope Large stones content Shrink-swell	1.00 0.53 0.50
57: Badland-----	90	Not rated		Not rated		Not rated	
58: Deama-----	45	Very limited Slope Depth to hard bedrock Shrink-swell Large stones content	1.00 1.00 0.50 0.01	Very limited Slope Depth to hard bedrock Shrink-swell Large stones content	1.00 1.00 0.50 0.01	Very limited Slope Depth to hard bedrock Shrink-swell Large stones content	1.00 1.00 0.50 0.01
Elpedro-----	35	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Slope	0.04	Very limited Slope Shrink-swell	1.00 0.50

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
59: Harvey-----	35	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.50 0.50
Ildefonso-----	35	Somewhat limited Slope Large stones content	0.37 0.02	Somewhat limited Slope Large stones content	0.37 0.02	Very limited Slope Large stones content	1.00 0.02
La Fonda-----	15	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
63: Placitas-----	85	Very limited Slope Depth to hard bedrock	1.00 0.71	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 0.71
64: Skyvillage-----	40	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
Ildefonso-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
65: Ildefonso-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Harvey-----	30	Somewhat limited Slope Shrink-swell	0.84 0.50	Somewhat limited Slope	0.84	Very limited Slope Shrink-swell	1.00 0.50
66: Zia-----	85	Not limited		Not limited		Somewhat limited Slope	0.12

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67: Sandoval-----	40	Very limited Slope	1.00	Very limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Shrink-swell	0.50	Slope	1.00	Slope	1.00
		Depth to soft bedrock	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Poley-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
68: Penistaja-----	45	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
						Slope	0.12
Querencia-----	35	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
						Slope	0.12
71: Palon-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	0.05	Large stones content	0.05	Large stones content	0.05
72: Palon-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	1.00	Large stones content	1.00	Large stones content	1.00
74: Origo-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	0.55	Large stones content	0.55	Large stones content	0.55
Pavo-----	25	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
75: Origo-----	85	Very limited Slope Large stones content	1.00 0.99	Very limited Slope Large stones content	1.00 0.99	Very limited Slope Large stones content	1.00 0.99
82: Calaveras-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
83: Calaveras-----	60	Very limited Slope Large stones content	1.00 0.01	Very limited Slope Large stones content	1.00 0.01	Very limited Slope Large stones content	1.00 0.01
Rubble land-----	20	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Large stones content	1.00 1.00
85: Redondo-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
86: Redondo-----	85	Very limited Slope Large stones content	1.00 0.53	Very limited Slope Large stones content	1.00 0.53	Very limited Slope Large stones content	1.00 0.53
87: Redondo-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rubble land-----	25	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Large stones content	1.00 1.00	Very limited Slope Large stones content	1.00 1.00
88: Totavi-----	45	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
88: Jemez-----	30	Somewhat limited Depth to hard bedrock Shrink-swell Slope	0.71 0.50 0.16	Very limited Depth to hard bedrock Shrink-swell Slope	1.00 0.50 0.16	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 0.71 0.50
Rock outcrop-----	15	Not rated		Not rated		Not rated	
91: Zia-----	85	Not limited		Not limited		Not limited	
92: Galisteo, moderately saline, sodic-----	85	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
93: Zia-----	85	Not limited		Not limited		Not limited	
95: El Rancho-----	85	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
97: El Rancho-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
100: Orejas-----	40	Very limited Slope Depth to hard bedrock Large stones content Shrink-swell	1.00 1.00 0.61 0.50	Very limited Slope Depth to hard bedrock Large stones content Shrink-swell	1.00 1.00 0.61 0.50	Very limited Slope Depth to hard bedrock Large stones content Shrink-swell	1.00 1.00 0.61 0.50
Rock outcrop-----	40	Not rated		Not rated		Not rated	
101: Blancot-----	55	Not limited		Not limited		Somewhat limited Slope	0.12

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
101: Lybrook-----	25	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
102: Sparham-----	85	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50
104: Cochiti-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Montecito-----	30	Not limited		Not limited		Not limited	
105: Badland-----	50	Not rated		Not rated		Not rated	
Menefee-----	30	Very limited Slope Shrink-swell Depth to soft bedrock	1.00 0.50 0.50	Very limited Slope Depth to soft bedrock Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to soft bedrock Shrink-swell	1.00 1.00 0.50
106: Stumble-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Stumble, sandy-----	30	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding Slope	1.00 0.50
108: Embudo-----	85	Somewhat limited Slope	0.01	Somewhat limited Slope	0.01	Very limited Slope	1.00
109: Embudo-----	50	Not limited		Not limited		Somewhat limited Slope	0.50
Tijeras-----	35	Not limited		Not limited		Not limited	

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
110: Rock outcrop-----	45	Not rated		Not rated		Not rated	
Saido-----	40	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
111: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Zia-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
112: Tijeras-----	85	Not limited		Not limited		Not limited	
114: San Mateo-----	40	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50
Zia-----	40	Not limited		Not limited		Somewhat limited Slope	0.12
120: Pinavetes-----	85	Not limited		Not limited		Not limited	
124: Rock outcrop-----	90	Not rated		Not rated		Not rated	
129: Menefee-----	85	Very limited Slope Shrink-swell Depth to soft bedrock	1.00 0.50 0.50	Very limited Depth to soft bedrock Slope Shrink-swell	1.00 1.00 0.50	Very limited Depth to soft bedrock Slope Shrink-swell	1.00 1.00 0.50
130: Pinavetes-----	45	Not limited		Not limited		Not limited	

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
130: Galisteo, moderately saline, sodic-----	40	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell	1.00 1.00
142: Grieta-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
143: Clovis-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
145: Grieta-----	55	Not limited		Not limited		Not limited	
Sheppard-----	40	Not limited		Not limited		Somewhat limited Slope	0.50
146: Sedmar-----	85	Very limited Depth to hard bedrock Slope	1.00 0.01	Very limited Depth to hard bedrock Slope	1.00 0.01	Very limited Depth to hard bedrock Slope	1.00 1.00
150: Doakum-----	55	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Bettonnie-----	35	Not limited		Not limited		Somewhat limited Slope	0.88
162: Hackroy-----	45	Very limited Depth to hard bedrock Shrink-swell	1.00 1.00	Very limited Shrink-swell Depth to hard bedrock	1.00 1.00	Very limited Depth to hard bedrock Shrink-swell	1.00 1.00
Nyjack-----	40	Not limited		Somewhat limited Depth to soft bedrock	0.01	Not limited	

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
163: Jemez-----	85	Somewhat limited Shrink-swell	0.50	Very limited Depth to hard bedrock	1.00	Very limited Slope	1.00
		Depth to hard bedrock	0.01	Shrink-swell	0.50	Shrink-swell	0.50
		Slope	0.01	Slope	0.01	Depth to hard bedrock	0.01
170: San Mateo-----	85	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
180: Cuncelor-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Eslendo-----	30	Very limited Slope	1.00	Very limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Shrink-swell	0.50	Slope	1.00	Slope	1.00
		Depth to soft bedrock	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Mespun-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
183: Sheppard-----	85	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
185: Frijoles-----	90	Not limited		Not limited		Somewhat limited Slope	0.12
190: Zia-----	35	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
190: Skyvillage-----	25	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
191: Sheppard-----	85	Not limited		Not limited		Somewhat limited Slope	0.50
200: Sedillo-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
201: Rock outcrop-----	55	Not rated		Not rated		Not rated	
Sedgran-----	35	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
206: Pinitos-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.88 0.50
207: Penistaja-----	60	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
Zia-----	25	Not limited		Not limited		Somewhat limited Slope	0.12
208: Sedillo-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
210: Ildefonso-----	85	Very limited Slope Large stones content Shrink-swell	1.00 0.97 0.50	Very limited Slope Large stones content Shrink-swell	1.00 0.97 0.50	Very limited Slope Large stones content Shrink-swell	1.00 0.97 0.50
211: Zia-----	45	Not limited		Not limited		Somewhat limited Slope	0.50
Clovis-----	30	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
213: Pinavetes-----	55	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rock outcrop-----	30	Not rated		Not rated		Not rated	
215: Ess-----	60	Very limited Slope Shrink-swell Large stones content	1.00 0.50 0.33	Very limited Slope Large stones content	1.00 0.33	Very limited Slope Shrink-swell Large stones content	1.00 0.50 0.33
Rock outcrop-----	30	Not rated		Not rated		Not rated	
217: Witt-----	85	Not limited		Not limited		Somewhat limited Slope	0.12
218: Ildefonso-----	85	Somewhat limited Large stones content Slope	0.71 0.01	Somewhat limited Large stones content Slope	0.71 0.01	Very limited Slope Large stones content	1.00 0.71

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
220: Rock outcrop-----	40	Not rated		Not rated		Not rated	
Vessilla-----	30	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
Menefee-----	20	Very limited Slope Shrink-swell Depth to soft bedrock	1.00 0.50 0.50	Very limited Slope Depth to soft bedrock Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to soft bedrock Shrink-swell	1.00 1.00 0.50
226: Galisteo, moderately saline, sodic-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
227: Hagerman-----	65	Somewhat limited Shrink-swell Depth to hard bedrock	0.50 0.15	Very limited Depth to hard bedrock Shrink-swell	1.00 0.50	Somewhat limited Shrink-swell Depth to hard bedrock	0.50 0.15
Bond-----	20	Very limited Depth to hard bedrock Shrink-swell	1.00 0.50	Very limited Depth to hard bedrock Shrink-swell	1.00 0.50	Very limited Depth to hard bedrock Shrink-swell Slope	1.00 0.50 0.12
228: Winona-----	85	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.50

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
230: Skyvillage-----	35	Very limited Depth to hard bedrock Slope	1.00 0.63	Very limited Depth to hard bedrock Slope	1.00 0.63	Very limited Depth to hard bedrock Slope	1.00 1.00
Sandoval-----	25	Somewhat limited Slope Shrink-swell Depth to soft bedrock	0.63 0.50 0.50	Very limited Depth to soft bedrock Slope Shrink-swell	1.00 0.63 0.50	Very limited Depth to soft bedrock Slope Shrink-swell	1.00 1.00 0.50
Rock outcrop-----	20	Not rated		Not rated		Not rated	
231: Querencia-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
234: Querencia-----	60	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell Slope	0.50 0.12
Zia-----	20	Not limited		Not limited		Somewhat limited Slope	0.12
235: Sandoval-----	85	Somewhat limited Shrink-swell Depth to soft bedrock Slope	0.50 0.50 0.04	Very limited Depth to soft bedrock Shrink-swell Slope	1.00 0.50 0.04	Very limited Depth to soft bedrock Slope Shrink-swell	1.00 1.00 0.50
236: Sparank, moderately saline, sodic-----	85	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
237: Sparank-----	85	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50
240: Penistaja-----	45	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
Hagerman-----	35	Somewhat limited Depth to hard bedrock Shrink-swell	0.90 0.50	Very limited Depth to hard bedrock Shrink-swell	1.00 0.50	Somewhat limited Depth to hard bedrock Shrink-swell	0.90 0.50
250: Pinavetes-----	90	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Very limited Slope	1.00
262: Pastura-----	90	Somewhat limited Shrink-swell Depth to thin cemented pan	0.50 0.50	Very limited Depth to thin cemented pan Shrink-swell	1.00 0.50	Somewhat limited Depth to thin cemented pan Shrink-swell	1.00 0.50
270: Blancot-----	40	Not limited		Not limited		Not limited	
Cuncelor-----	30	Not limited		Not limited		Not limited	
Tsosie-----	25	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
281: Carjo-----	90	Very limited Shrink-swell Depth to hard bedrock	1.00 0.84	Very limited Shrink-swell Depth to hard bedrock	1.00 1.00	Very limited Shrink-swell Depth to hard bedrock Slope	1.00 0.84 0.12

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
282: Tocal-----	85	Somewhat limited Shrink-swell	0.50	Very limited Depth to soft bedrock	1.00	Somewhat limited Depth to soft bedrock	1.00
		Depth to soft bedrock	0.50	Shrink-swell	0.50	Slope	0.50
						Shrink-swell	0.50
283: Mirand-----	45	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Alanos-----	30	Very limited Slope	1.00	Very limited Shrink-swell	1.00	Very limited Slope	1.00
		Shrink-swell	0.50	Slope	1.00	Shrink-swell	0.50
290: Alanos-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
Rock outcrop-----	30	Not rated		Not rated		Not rated	
300: Waumac-----	50	Not limited		Not limited		Not limited	
Bamac-----	35	Not limited		Not limited		Not limited	
301: Vastine-----	45	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
Jarola-----	40	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.39	Shrink-swell	0.50	Depth to saturated zone	0.39

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
302: Tranquilar-----	50	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.99	Very limited Shrink-swell Slope	1.00 0.12
Jarmillo-----	30	Not limited		Somewhat limited Shrink-swell	0.50	Somewhat limited Slope	0.12
304: Cosey-----	45	Somewhat limited Slope	0.37	Somewhat limited Shrink-swell Slope	0.50 0.37	Very limited Slope	1.00
Jarmillo-----	40	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37	Very limited Slope	1.00
307: Flugle-----	60	Not limited		Not limited		Not limited	
Waumac-----	25	Not limited		Not limited		Somewhat limited Slope	0.12
308: Cajete-----	85	Not limited		Not limited		Not limited	
311: Cosey-----	35	Somewhat limited Slope Shrink-swell Large stones content	0.84 0.50 0.03	Somewhat limited Slope Shrink-swell Large stones content	0.84 0.50 0.03	Very limited Slope Shrink-swell Large stones content	1.00 0.50 0.03
Tranquilar-----	30	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.99	Very limited Shrink-swell Slope	1.00 0.88
Calaveras-----	25	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
312: Royosa-----	90	Not limited		Not limited		Somewhat limited Slope	0.12
314: Fragua-----	40	Not limited		Not limited		Somewhat limited Slope	0.12
Waumac-----	30	Not limited		Not limited		Somewhat limited Slope	0.12
Royosa-----	25	Not limited		Not limited		Somewhat limited Slope	0.12
317: Elpedro-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
319: Bamac-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
320: Sparham-----	85	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell	1.00 1.00
321: Waumac-----	60	Somewhat limited Slope	0.01	Somewhat limited Slope	0.01	Very limited Slope	1.00
Royosa-----	30	Not limited		Not limited		Somewhat limited Slope	0.12
322: Fragua-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
324: Rock outcrop-----	30	Not rated		Not rated		Not rated	

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
324: Atarque-----	25	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 1.00 0.50
Menefee-----	25	Very limited Slope Shrink-swell Depth to soft bedrock	1.00 0.50 0.50	Very limited Depth to soft bedrock Slope Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to soft bedrock Shrink-swell	1.00 1.00 0.50
325: Rock outcrop-----	35	Not rated		Not rated		Not rated	
Espiritu-----	25	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Vessilla-----	25	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
342: Waumac-----	35	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00
Vessilla-----	25	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
345: Espiritu-----	50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
345: Bamac-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
346: Espiritu, cobbly----	70	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Shrink-swell	0.50	Large stones content	0.01	Shrink-swell	0.50
		Large stones content	0.01			Large stones content	0.01
Bamac-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
348: Wauquie-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
353: Cochiti-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Espiritu-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
354: Waumac Variant-----	85	Somewhat limited Depth to soft bedrock	0.50	Very limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	0.01	Slope	0.01	Slope	1.00
358: Deama-----	35	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Slope	1.00
		Slope	1.00	Slope	1.00	Depth to hard bedrock	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
358: Elpedro-----	25	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Rock outcrop-----	25	Not rated		Not rated		Not rated	
396: Atarque-----	30	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.50
Menefee-----	30	Very limited Slope Shrink-swell Depth to soft bedrock	1.00 0.50 0.50	Very limited Slope Depth to soft bedrock Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to soft bedrock Shrink-swell	1.00 1.00 0.50
Rock outcrop-----	25	Not rated		Not rated		Not rated	
397: Rock outcrop-----	30	Not rated		Not rated		Not rated	
Cucho-----	25	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell Depth to soft bedrock	1.00 0.50 0.03	Very limited Slope Shrink-swell	1.00 0.50
Vessilla-----	25	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
398: Espiritu-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
398: Cucho-----	35	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell Depth to soft bedrock	1.00 0.50 0.03	Very limited Slope Shrink-swell	1.00 0.50
399: Cucho-----	45	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell Depth to soft bedrock	1.00 0.50 0.03	Very limited Slope Shrink-swell	1.00 0.50
Teco-----	35	Very limited Shrink-swell Slope	1.00 1.00	Very limited Shrink-swell Slope	1.00 1.00	Very limited Slope Shrink-swell	1.00 1.00
405: Charo-----	50	Very limited Shrink-swell Depth to hard bedrock	1.00 0.64	Very limited Shrink-swell Depth to hard bedrock	1.00 1.00	Very limited Shrink-swell Depth to hard bedrock	1.00 0.64
Charo, noncobbly----	40	Somewhat limited Shrink-swell Depth to hard bedrock	0.50 0.01	Very limited Depth to hard bedrock Shrink-swell	1.00 0.50	Somewhat limited Shrink-swell Depth to hard bedrock	0.50 0.01
409: Santa Fe-----	85	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.50
410: Zia-----	85	Not limited		Not limited		Not limited	

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
414: Wauquie-----	85	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50
417: Jocity-----	85	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell Depth to saturated zone	1.00 0.50 0.15	Very limited Flooding Shrink-swell	1.00 0.50
418: Jocity-----	85	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 0.15	Very limited Flooding Shrink-swell	1.00 0.50
419: Santa Fe-----	40	Very limited Slope Depth to hard bedrock Shrink-swell Large stones content	1.00 1.00 0.50 0.01	Very limited Slope Depth to hard bedrock Shrink-swell Large stones content	1.00 1.00 0.50 0.01	Very limited Slope Depth to hard bedrock Shrink-swell Large stones content	1.00 1.00 0.50 0.01
Wauquie-----	30	Very limited Slope Large stones content	1.00 0.08	Very limited Slope Large stones content	1.00 0.08	Very limited Slope Large stones content	1.00 0.08
Rock outcrop-----	20	Not rated		Not rated		Not rated	
420: Pinavetes-----	85	Not limited		Not limited		Not limited	
421: Gilco, moderately saline, sodic-----	90	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.15	Very limited Flooding	1.00

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
422: Vessilla-----	35	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 1.00
Menefee-----	30	Somewhat limited Shrink-swell Depth to soft bedrock	0.50 0.50	Very limited Depth to soft bedrock Shrink-swell	1.00 0.50	Somewhat limited Depth to soft bedrock Slope Shrink-swell	1.00 0.50 0.50
Orlie-----	25	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
423: Gilco-----	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.15	Very limited Flooding	1.00
426: Aga, moderately saline, sodic-----	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.15	Very limited Flooding	1.00
427: Aga-----	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.47	Very limited Flooding	1.00
428: Aga, moderately saline, sodic-----	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.15	Very limited Flooding	1.00

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
430: Trail-----	85	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
431: Trail-----	85	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
433: Peralta-----	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.99	Very limited Flooding	1.00
434: Peralta-----	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.99	Very limited Flooding	1.00
437: Peralta, moderately saline, sodic-----	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.99	Very limited Flooding	1.00
500: Rock outcrop-----	40	Not rated		Not rated		Not rated	
Osha-----	30	Very limited Slope	1.00	Very limited Slope Depth to hard bedrock	1.00 0.93	Very limited Slope	1.00
Rubble land-----	20	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	1.00	Large stones content	1.00	Large stones content	1.00
503: Cajete-----	65	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
503: Cypher-----	25	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
504: Orejas-----	40	Very limited Depth to hard bedrock Shrink-swell Slope	1.00 0.50 0.16	Very limited Depth to hard bedrock Shrink-swell Slope	1.00 0.50 0.16	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 1.00 0.50
Guaje-----	35	Not limited		Not limited		Somewhat limited Slope	0.12
600: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Cypher-----	35	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
601: Laventana-----	85	Somewhat limited Shrink-swell Slope	0.50 0.04	Somewhat limited Shrink-swell Depth to hard bedrock Slope	0.50 0.42 0.04	Very limited Slope Shrink-swell	1.00 0.50
603: Laventana-----	50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 0.50 0.32	Very limited Slope Shrink-swell	1.00 0.50
Mirand-----	35	Very limited Slope Shrink-swell	1.00 1.00	Very limited Slope Shrink-swell	1.00 1.00	Very limited Slope Shrink-swell	1.00 1.00

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
604: Cypher-----	55	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
Mirand-----	30	Very limited Slope Shrink-swell	1.00 1.00	Very limited Slope Shrink-swell	1.00 1.00	Very limited Slope Shrink-swell	1.00 1.00
608: Osha, steep-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Osha-----	30	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
823: Gilco, unprotected--	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.15	Very limited Flooding	1.00
827: Aga, unprotected----	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.47	Very limited Flooding	1.00
830: Trail, unprotected--	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.15	Very limited Flooding	1.00
831: Trail, unprotected--	85	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.15	Very limited Flooding	1.00

Table 10A.--Dwellings and small commercial buildings--continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
835: Peralta, unprotected	85	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.99 0.50	Very limited Flooding Shrink-swell	1.00 0.50
842: Peralta, moderately saline, sodic, unprotected-----	85	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.99 0.50	Very limited Flooding Shrink-swell	1.00 0.50
850: Water-----	95	Not rated		Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated		Not rated	

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1: Silver-----	55	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Clovis-----	35	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
2: Clovis-----	35	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
Prieta-----	35	Very limited Depth to hard bedrock Shrink-swell	1.00 0.50	Very limited Depth to hard bedrock Large stones content	1.00 0.43	Very limited Depth to bedrock Droughty	1.00 1.00
		Large stones content Slope	0.43 0.04	Cutbanks cave Slope	0.10 0.04	Large stones content Gravel content Slope	1.00 0.08 0.04
Silver-----	20	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
3: Montecito-----	60	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Somewhat limited Large stones content	0.01

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3: Orejas-----	30	Very limited Depth to hard bedrock Large stones content Shrink-swell	1.00 0.67 0.50	Very limited Depth to hard bedrock Large stones content Cutbanks cave	1.00 0.67 0.10	Very limited Depth to bedrock Droughty Large stones content	1.00 1.00 0.99
4: Montecito-----	45	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope Large stones content	1.00 0.01
Montecito, bouldery-	35	Very limited Low strength Slope Shrink-swell	1.00 1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Large stones content Slope Gravel content	1.00 1.00 0.05
10: Trail-----	85	Somewhat limited Flooding	0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.15	Somewhat limited Droughty	0.27
11: Trail-----	85	Very limited Flooding	1.00	Very limited Cutbanks cave Flooding Depth to saturated zone	1.00 0.60 0.15	Somewhat limited Flooding Droughty	0.60 0.08
13: Sandoval-----	65	Very limited Depth to soft bedrock Low strength Shrink-swell	1.00 1.00 0.50	Very limited Depth to soft bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty	1.00 0.59
Querencia-----	20	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
15: Camino-----	40	Very limited Low strength Shrink-swell	1.00 1.00	Somewhat limited Too clayey Cutbanks cave	0.12 0.10	Not limited	
Sandoval-----	35	Very limited Depth to soft bedrock Low strength Shrink-swell	1.00 1.00 0.50	Very limited Depth to soft bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty	1.00 0.25
16: Prieta-----	30	Very limited Depth to hard bedrock Shrink-swell Large stones content Slope	1.00 0.50 0.06 0.04	Very limited Depth to hard bedrock Cutbanks cave Large stones content Slope	1.00 0.10 0.06 0.04	Very limited Depth to bedrock Droughty Large stones content Slope	1.00 0.99 0.08 0.04
17: Vessilla-----	35	Very limited Depth to hard bedrock Slope	1.00 0.04	Very limited Depth to hard bedrock Cutbanks cave Slope	1.00 0.10 0.04	Very limited Depth to bedrock Droughty Slope	1.00 1.00 0.04
Menefee-----	25	Somewhat limited Depth to soft bedrock Shrink-swell Frost action Slope	1.00 0.50 0.50 0.04	Very limited Depth to soft bedrock Cutbanks cave Slope	1.00 0.10 0.04	Very limited Depth to bedrock Droughty Slope	1.00 0.99 0.04
18: Sparham-----	85	Very limited Flooding Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Flooding Cutbanks cave	0.60 0.10	Very limited Too clayey Sodium content Flooding	1.00 1.00 0.60

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20: Gilco-----	85	Somewhat limited Flooding	0.40	Somewhat limited Depth to saturated zone Cutbanks cave	0.15 0.10	Not limited	
21: Hackroy-----	25	Very limited Depth to hard bedrock Low strength Shrink-swell Frost action	1.00 1.00 1.00 0.50	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty	1.00 1.00
22: Aga-----	85	Somewhat limited Flooding	0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.47	Not limited	
23: Hickman-----	85	Very limited Low strength Shrink-swell Flooding	1.00 0.50 0.40	Somewhat limited Cutbanks cave	0.10	Not limited	
24: Orlie-----	45	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Sparham-----	35	Very limited Flooding Low strength Shrink-swell	1.00 1.00 1.00	Somewhat limited Flooding Too clayey Cutbanks cave	0.60 0.12 0.10	Very limited Too clayey Sodium content Flooding	1.00 1.00 0.60
25: Gilco-----	85	Somewhat limited Flooding	0.40	Somewhat limited Depth to saturated zone Cutbanks cave	0.15 0.10	Not limited	

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
26: Orlie-----	85	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
27: Aga-----	85	Somewhat limited Flooding	0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.47	Not limited	
29: Trail-----	85	Somewhat limited Flooding	0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.15	Somewhat limited Droughty	0.69
34: Ildefonso-----	55	Somewhat limited Large stones content	0.70	Somewhat limited Large stones content Cutbanks cave	0.70 0.10	Somewhat limited Large stones content Droughty	0.92 0.07
Witt-----	30	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
47: Cascajo-----	85	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Droughty Slope Gravel content Large stones content	1.00 1.00 0.98 0.61
51: Sparham-----	85	Very limited Depth to saturated zone Flooding Low strength Shrink-swell	1.00 1.00 1.00 1.00	Very limited Depth to saturated zone Flooding Too clayey Cutbanks cave	1.00 0.60 0.12 0.10	Very limited Depth to saturated zone Sodium content Flooding Salinity	1.00 1.00 0.60 0.13

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
52: Totavi-----	85	Somewhat limited Flooding	0.40	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.69
53: Witt-----	55	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Harvey-----	30	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
54: Harvey-----	45	Somewhat limited Shrink-swell Slope	0.50 0.16	Somewhat limited Slope Cutbanks cave	0.16 0.10	Somewhat limited Slope	0.16
Cascajo-----	40	Somewhat limited Slope	0.16	Very limited Cutbanks cave Slope	1.00 0.16	Very limited Droughty Gravel content Slope Large stones content	1.00 0.71 0.16 0.08
55: La Fonda-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
56: Ildefonso-----	85	Very limited Slope Large stones content Shrink-swell	1.00 0.53 0.50	Very limited Slope Large stones content Cutbanks cave	1.00 0.53 0.10	Very limited Slope Large stones content Droughty	1.00 0.84 0.01

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
58: Deama-----	45	Very limited Depth to hard bedrock Slope Shrink-swell Large stones content	1.00 1.00 0.50 0.01	Very limited Depth to hard bedrock Slope Cutbanks cave Large stones content	1.00 1.00 0.10 0.01	Very limited Depth to bedrock Slope Droughty Carbonate content Large stones content	1.00 1.00 1.00 1.00 0.99
Elpedro-----	35	Very limited Low strength Shrink-swell Frost action Slope	1.00 0.50 0.50 0.04	Somewhat limited Cutbanks cave Slope	0.10 0.04	Somewhat limited Slope	0.04
59: Harvey-----	35	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Ildefonso-----	35	Somewhat limited Slope Large stones content	0.37 0.02	Very limited Cutbanks cave Slope Large stones content	1.00 0.37 0.02	Somewhat limited Droughty Slope Large stones content	0.65 0.37 0.08
La Fonda-----	15	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
63: Placitas-----	85	Very limited Slope Depth to hard bedrock	1.00 0.71	Very limited Depth to hard bedrock Cutbanks cave Slope	1.00 1.00 1.00	Very limited Droughty Slope Depth to bedrock Gravel content	1.00 1.00 0.71 0.08

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64: Skyvillage-----	40	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.91
Ildefonso-----	35	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty Gravel content Large stones content	1.00 0.88 0.11 0.05
65: Ildefonso-----	50	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Gravel content Droughty Large stones content	1.00 0.99 0.92 0.32
Harvey-----	30	Somewhat limited Slope Shrink-swell	0.84 0.50	Somewhat limited Slope Cutbanks cave	0.84 0.10	Somewhat limited Slope	0.84
66: Zia-----	85	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
67: Sandoval-----	40	Very limited Depth to soft bedrock Low strength Slope Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.98
Poley-----	35	Very limited Low strength Slope Shrink-swell	1.00 1.00 0.50	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Large stones content Gravel content	1.00 0.92 0.75

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
68: Penistaja-----	45	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Querencia-----	35	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
71: Palon-----	85	Very limited Slope Frost action Large stones content	1.00 0.50 0.05	Very limited Slope Cutbanks cave Large stones content	1.00 0.10 0.05	Very limited Slope Droughty Large stones content	1.00 0.98 0.46
72: Palon-----	85	Very limited Slope Large stones content Frost action	1.00 1.00 0.50	Very limited Slope Large stones content Cutbanks cave	1.00 1.00 0.10	Very limited Slope Droughty	1.00 0.99
74: Origo-----	50	Very limited Slope Large stones content Frost action	1.00 0.55 0.50	Very limited Slope Large stones content Cutbanks cave	1.00 0.55 0.10	Very limited Slope Droughty Gravel content Large stones content	1.00 1.00 0.45 0.08
Pavo-----	25	Somewhat limited Slope Frost action	0.84 0.50	Very limited Cutbanks cave Slope	1.00 0.84	Somewhat limited Slope	0.84
75: Origo-----	85	Very limited Slope Large stones content Frost action	1.00 0.99 0.50	Very limited Slope Cutbanks cave Large stones content	1.00 1.00 0.99	Very limited Slope Droughty	1.00 0.77

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
82: Calaveras-----	85	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope Droughty	1.00 0.64
83: Calaveras-----	60	Very limited Slope Frost action Large stones content	1.00 0.50 0.01	Very limited Slope Cutbanks cave Large stones content	1.00 0.10 0.01	Very limited Slope Droughty	1.00 0.56
85: Redondo-----	85	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty	1.00 0.06
86: Redondo-----	85	Very limited Slope Large stones content Frost action	1.00 0.53 0.50	Very limited Slope Large stones content Cutbanks cave	1.00 0.53 0.10	Very limited Slope Droughty Large stones content	1.00 1.00 0.20
87: Redondo-----	50	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope Droughty Large stones content	1.00 0.91 0.20
88: Totavi-----	45	Somewhat limited Flooding	0.40	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.20
Jemez-----	30	Somewhat limited Depth to hard bedrock Shrink-swell Frost action Slope	0.71 0.50 0.50 0.16	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 0.16 0.10	Somewhat limited Depth to bedrock Slope	0.71 0.16

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
91: Zia-----	85	Not limited		Very limited Cutbanks cave	1.00	Not limited	
92: Galisteo, moderately saline, sodic-----	85	Very limited Low strength Shrink-swell	1.00 1.00	Somewhat limited Too clayey Cutbanks cave	0.12 0.10	Very limited Salinity	1.00
93: Zia-----	85	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
95: El Rancho-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
97: El Rancho-----	85	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
100: Orejas-----	40	Very limited Depth to hard bedrock Slope Large stones content Shrink-swell	1.00 1.00 0.61 0.50	Very limited Depth to hard bedrock Slope Large stones content Cutbanks cave	1.00 1.00 0.61 0.10	Very limited Depth to bedrock Slope Droughty Large stones content	1.00 1.00 1.00 1.00
101: Blancot-----	55	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
Lybrook-----	25	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Very limited Sodium content	1.00

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
102: Sparham-----	85	Very limited Flooding Low strength Shrink-swell	1.00 1.00 0.50	Somewhat limited Flooding Cutbanks cave	0.60 0.10	Very limited Sodium content Flooding	1.00 0.60
104: Cochiti-----	50	Very limited Slope Frost action	1.00 0.50	Very limited Cutbanks cave Slope Too clayey	1.00 1.00 0.50	Very limited Slope Droughty Large stones content	1.00 0.07 0.01
Montecito-----	30	Not limited		Very limited Cutbanks cave	1.00	Not limited	
105: Menefee-----	30	Very limited Slope Depth to soft bedrock Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty	1.00 1.00 1.00
106: Stumble-----	50	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty Gravel content	1.00 0.98 0.92
Stumble, sandy-----	30	Somewhat limited Flooding	0.40	Very limited Cutbanks cave	1.00	Very limited Droughty Gravel content	1.00 0.03
108: Embudo-----	85	Somewhat limited Slope	0.01	Very limited Cutbanks cave Slope	1.00 0.01	Somewhat limited Gravel content Slope	0.01 0.01
109: Embudo-----	50	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.50

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
109: Tijeras-----	35	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.01
110: Saído-----	40	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope Salinity	1.00 0.13
111: Zia-----	35	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
112: Tijeras-----	85	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Large stones content	0.01
114: San Mateo-----	40	Somewhat limited Shrink-swell Flooding	0.50 0.40	Somewhat limited Cutbanks cave	0.10	Not limited	
Zia-----	40	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
120: Pinavetes-----	85	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.99
129: Menefee-----	85	Very limited Depth to soft bedrock Low strength Slope Shrink-swell Frost action	1.00 1.00 1.00 0.50 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.17
130: Pinavetes-----	45	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.69

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
130: Galisteo, moderately saline, sodic-----	40	Very limited Low strength Shrink-swell Flooding	1.00 1.00 0.40	Somewhat limited Too clayey Cutbanks cave	0.12 0.10	Very limited Salinity Sodium content	1.00 1.00
142: Grieta-----	85	Somewhat limited Shrink-swell Frost action	0.50 0.50	Very limited Cutbanks cave	1.00	Not limited	
143: Clovis-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
145: Grieta-----	55	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Sheppard-----	40	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.09
146: Sedmar-----	85	Very limited Depth to hard bedrock Slope	1.00 0.01	Very limited Depth to hard bedrock Cutbanks cave Slope	1.00 0.10 0.01	Very limited Depth to bedrock Droughty Slope	1.00 1.00 0.01
150: Doakum-----	55	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Bettonnie-----	35	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
162: Hackroy-----	45	Very limited Depth to hard bedrock Low strength Shrink-swell Frost action	1.00 1.00 1.00 0.50	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty	1.00 1.00
Nyjack-----	40	Somewhat limited Frost action	0.50	Very limited Cutbanks cave Depth to soft bedrock	1.00 0.01	Somewhat limited Depth to bedrock	0.01
163: Jemez-----	85	Somewhat limited Shrink-swell Frost action Depth to hard bedrock Slope	0.50 0.50 0.01 0.01	Very limited Depth to hard bedrock Cutbanks cave Slope	1.00 0.10 0.01	Somewhat limited Depth to bedrock Slope	0.01 0.01
170: San Mateo-----	85	Very limited Low strength Shrink-swell Flooding	1.00 0.50 0.40	Somewhat limited Cutbanks cave	0.10	Very limited Sodium content	1.00
180: Cuncelor-----	40	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope	1.00
Eslendo-----	30	Very limited Depth to soft bedrock Slope Shrink-swell	1.00 1.00 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.99
Mespun-----	25	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty	1.00 0.29

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
183: Sheppard-----	85	Somewhat limited Slope	0.63	Very limited Cutbanks cave Slope	1.00 0.63	Somewhat limited Slope Droughty	0.63 0.09
185: Frijoles-----	90	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Very limited Droughty	1.00
190: Zia-----	35	Somewhat limited Slope	0.84	Somewhat limited Slope Cutbanks cave	0.84 0.10	Somewhat limited Slope	0.84
Skyvillage-----	25	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to bedrock	1.00
		Slope	1.00	Slope Cutbanks cave	1.00 0.10	Slope Droughty	1.00 0.96
191: Sheppard-----	85	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.09
200: Sedillo-----	85	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Droughty Slope Large stones content Gravel content	1.00 1.00 0.74 0.06
201: Sedgran-----	35	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty Gravel content Large stones content	1.00 1.00 1.00 0.68

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
206: Pinitos-----	85	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
207: Penistaja-----	60	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Zia-----	25	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
208: Sedillo-----	85	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Gravel content Droughty	1.00 1.00 0.89
210: Ildefonso-----	85	Very limited Slope Large stones content Shrink-swell	1.00 0.97 0.50	Very limited Slope Large stones content Cutbanks cave	1.00 0.97 0.10	Very limited Slope Large stones content Droughty Gravel content	1.00 1.00 0.34 0.09
211: Zia-----	45	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
Clovis-----	30	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
213: Pinavetes-----	55	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty Too sandy	1.00 1.00 0.50

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
215: Ess-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Large stones content	1.00
		Shrink-swell	0.50	Large stones content	0.33	Slope	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.65
		Large stones content	0.33			Gravel content	0.08
217: Witt-----	85	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
218: Ildefonso-----	85	Somewhat limited Large stones content	0.71	Somewhat limited Large stones content	0.71	Very limited Large stones content	1.00
		Slope	0.01	Cutbanks cave	0.10	Droughty	0.80
				Slope	0.01	Gravel content	0.01
						Slope	0.01
220: Vessilla-----	30	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	0.10	Droughty	1.00
						Large stones content	0.01
Menefee-----	20	Very limited Slope	1.00	Very limited Depth to soft bedrock	1.00	Very limited Depth to bedrock	1.00
		Depth to soft bedrock	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Droughty	0.99
		Frost action	0.50				

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
226: Galisteo, moderately saline, sodic-----	85	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Very limited Salinity Sodium content	1.00 1.00
227: Hagerman-----	65	Very limited Low strength Shrink-swell Depth to hard bedrock	1.00 0.50 0.15	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Somewhat limited Depth to bedrock	0.16
Bond-----	20	Very limited Depth to hard bedrock Shrink-swell Low strength	1.00 0.50 0.22	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty Large stones content	1.00 1.00 0.01
228: Winona-----	85	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Droughty Slope Carbonate content Gravel content	1.00 1.00 1.00 0.96
230: Skyvillage-----	35	Very limited Depth to hard bedrock Slope	1.00 0.63	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 0.63 0.10	Very limited Depth to bedrock Droughty Slope	1.00 1.00 0.63
Sandoval-----	25	Somewhat limited Depth to soft bedrock Slope Shrink-swell	1.00 0.63 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 0.63 0.10	Very limited Depth to bedrock Droughty Slope	1.00 0.99 0.63

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
231: Querencia-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
234: Querencia-----	60	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Zia-----	20	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
235: Sandoval-----	85	Very limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00	Very limited Depth to bedrock	1.00
		Low strength	1.00	Cutbanks cave	0.10	Droughty	0.05
		Shrink-swell	0.50	Slope	0.04	Slope	0.04
		Slope	0.04				
236: Sparank, moderately saline, sodic-----	85	Very limited Flooding	1.00	Somewhat limited Flooding	0.60	Very limited Salinity	1.00
		Low strength	1.00	Too clayey	0.12	Sodium content	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Flooding	0.60
237: Sparank-----	85	Very limited Flooding	1.00	Somewhat limited Flooding	0.60	Somewhat limited Flooding	0.60
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
240: Penistaja-----	45	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Hagerman-----	35	Very limited Low strength	1.00	Very limited Depth to hard bedrock	1.00	Somewhat limited Depth to bedrock	0.90
		Depth to hard bedrock	0.90	Cutbanks cave	0.10		
		Shrink-swell	0.50				

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
250: Pinavetes-----	90	Somewhat limited Slope	0.16	Very limited Cutbanks cave Slope	1.00 0.16	Somewhat limited Droughty Slope	0.63 0.16
262: Pastura-----	90	Somewhat limited Depth to thin cemented pan Shrink-swell	1.00 0.50	Very limited Depth to thin cemented pan Cutbanks cave	1.00 0.10	Very limited Depth to cemented pan Droughty	1.00 1.00
270: Blancot-----	40	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
Councilor-----	30	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
Tsosie-----	25	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Somewhat limited Salinity	0.50
281: Carjo-----	90	Very limited Low strength Shrink-swell Depth to hard bedrock Frost action	1.00 1.00 0.84 0.50	Very limited Depth to hard bedrock Too clayey Cutbanks cave	1.00 0.12 0.10	Somewhat limited Depth to bedrock	0.84
282: Tocal-----	85	Somewhat limited Depth to soft bedrock Shrink-swell Frost action	1.00 0.50 0.50	Very limited Depth to soft bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty	1.00 0.87
283: Mirand-----	45	Very limited Low strength Shrink-swell Slope	1.00 1.00 1.00	Very limited Slope Too clayey Cutbanks cave	1.00 0.50 0.10	Very limited Slope	1.00

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
283: Alanos-----	30	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Cutbanks cave Slope Too clayey	1.00 1.00 0.12	Very limited Slope Large stones content Droughty Gravel content	1.00 0.88 0.38 0.01
290: Alanos-----	50	Very limited Slope Shrink-swell Frost action	1.00 1.00 0.50	Very limited Slope Cutbanks cave Too clayey	1.00 1.00 0.12	Very limited Slope Droughty	1.00 0.21
300: Waumac-----	50	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Bamac-----	35	Not limited		Very limited Cutbanks cave	1.00	Very limited Droughty Gravel content Large stones content	1.00 0.22 0.01
301: Vastine-----	45	Very limited Frost action Flooding Depth to saturated zone	1.00 0.40 0.19	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Somewhat limited Depth to saturated zone	0.19
Jarola-----	40	Somewhat limited Shrink-swell Frost action Flooding Depth to saturated zone	0.50 0.50 0.40 0.19	Very limited Depth to saturated zone Cutbanks cave	1.00 1.00	Somewhat limited Depth to saturated zone	0.19

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
302: Tranquilar-----	50	Very limited Low strength	1.00	Somewhat limited Depth to saturated zone	0.99	Not limited	
		Shrink-swell	1.00	Too clayey	0.50		
		Frost action	0.50	Cutbanks cave	0.10		
Jarmillo-----	30	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
304: Coasey-----	45	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Slope	0.37
		Slope	0.37	Slope	0.37		
		Low strength	0.22				
Jarmillo-----	40	Somewhat limited Frost action	0.50	Somewhat limited Slope	0.37	Somewhat limited Slope	0.37
		Slope	0.37	Cutbanks cave	0.10		
307: Flugle-----	60	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Waumac-----	25	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
308: Cajete-----	85	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.20
311: Coasey-----	35	Somewhat limited Slope	0.84	Very limited Cutbanks cave	1.00	Somewhat limited Slope	0.84
		Shrink-swell	0.50	Slope	0.84	Large stones content	0.01
		Frost action	0.50	Large stones content	0.03		
		Large stones content	0.03				

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
311: Tranquilar-----	30	Very limited Low strength	1.00	Somewhat limited Depth to saturated zone	0.99	Not limited	
		Shrink-swell	1.00	Too clayey	0.50		
		Frost action	0.50	Cutbanks cave	0.10		
Calaveras-----	25	Somewhat limited Slope	0.84	Very limited Cutbanks cave	1.00	Somewhat limited Slope	0.84
		Frost action	0.50	Slope	0.84		
312: Royosa-----	90	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty Too sandy	0.95 0.50
314: Fragua-----	40	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Waumac-----	30	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Royosa-----	25	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.92
317: Elpedro-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
		Frost action	0.50				
319: Bamac-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
				Cutbanks cave	1.00	Droughty	1.00
						Gravel content	1.00
320: Sparham-----	85	Very limited Flooding	1.00	Somewhat limited Flooding	0.60	Very limited Sodium content	1.00
		Low strength	1.00	Too clayey	0.12	Flooding	0.60
		Shrink-swell	1.00	Cutbanks cave	0.10		

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
321: Waumac-----	60	Somewhat limited Frost action Slope	0.50 0.01	Somewhat limited Cutbanks cave Slope	0.10 0.01	Somewhat limited Slope	0.01
Royosa-----	30	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.92
322: Fragua-----	85	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Large stones content Gravel content	1.00 0.99 0.13
324: Atarque-----	25	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.99
Menefee-----	25	Very limited Depth to soft bedrock Slope Low strength Shrink-swell Frost action	1.00 1.00 1.00 0.50 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Droughty Slope	1.00 1.00 1.00
325: Espiritu-----	25	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Gravel content Droughty Large stones content	1.00 0.45 0.21 0.16

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
325: Vessilla-----	25	Very limited Depth to hard bedrock Slope Frost action	1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty Gravel content Large stones content	1.00 1.00 1.00 0.54 0.01
342: Waumac-----	35	Somewhat limited Slope Frost action	0.84 0.50	Somewhat limited Slope Cutbanks cave	0.84 0.10	Somewhat limited Slope	0.84
Vessilla-----	25	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Droughty Slope	1.00 1.00 1.00
345: Espiritu-----	50	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty Gravel content Large stones content	1.00 0.47 0.38 0.08
Bamac-----	35	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty Gravel content Large stones content	1.00 1.00 1.00 0.01

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
346: Espiritu, cobbly----	70	Very limited Slope Shrink-swell Frost action Large stones content	1.00 0.50 0.50 0.01	Very limited Slope Cutbanks cave Large stones content	1.00 1.00 0.01	Very limited Slope Large stones content Droughty	1.00 1.00 0.92
Bamac-----	20	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty Gravel content	1.00 1.00 1.00
348: Wauquie-----	60	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Gravel content Large stones content Droughty	1.00 0.99 0.68 0.58
353: Cochiti-----	50	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Gravel content Large stones content Droughty	1.00 1.00 0.95 0.66
Espiritu-----	45	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Droughty Gravel content Large stones content	1.00 1.00 0.33 0.16

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
354: Waumac Variant-----	85	Somewhat limited Depth to soft bedrock Frost action Slope	1.00 0.50 0.01	Very limited Depth to soft bedrock Cutbanks cave Slope	1.00 0.10 0.01	Very limited Depth to bedrock Droughty Gravel content Slope	1.00 1.00 0.01
358: Deama-----	35	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Droughty Slope Carbonate content Gravel content	1.00 1.00 1.00 0.98
Elpedro-----	25	Very limited Low strength Slope Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope Gravel content	1.00 0.78
396: Atarque-----	30	Very limited Depth to hard bedrock Slope Shrink-swell Low strength	1.00 1.00 0.50 0.22	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Gravel content Droughty Large stones content	1.00 1.00 1.00 0.41 0.32
Menefee-----	30	Very limited Slope Depth to soft bedrock Low strength Shrink-swell Frost action	1.00 1.00 1.00 0.50 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.72

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
397: Cucho-----	25	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Slope Cutbanks cave Depth to soft bedrock	1.00 1.00 0.03	Very limited Slope Gravel content Depth to bedrock	1.00 0.92 0.03
Vessilla-----	25	Very limited Depth to hard bedrock Slope Frost action	1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty Gravel content	1.00 1.00 1.00 0.01
398: Espiritu-----	45	Very limited Slope Frost action	1.00 0.50	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Droughty Gravel content Large stones content	1.00 0.91 0.38 0.08
Cucho-----	35	Very limited Slope Low strength Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope Cutbanks cave Depth to soft bedrock	1.00 0.10 0.03	Very limited Slope Gravel content Depth to bedrock	1.00 0.99 0.03
399: Cucho-----	45	Very limited Slope Low strength Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Slope Cutbanks cave Depth to soft bedrock	1.00 0.10 0.03	Very limited Slope Gravel content Depth to bedrock	1.00 0.99 0.03
Teco-----	35	Very limited Low strength Shrink-swell Slope Frost action	1.00 1.00 1.00 0.50	Very limited Cutbanks cave Slope Too clayey	1.00 1.00 0.12	Very limited Slope Large stones content Gravel content	1.00 0.68 0.03

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
405: Charo-----	50	Very limited Low strength	1.00	Very limited Depth to hard bedrock	1.00	Somewhat limited Depth to bedrock	0.65
		Shrink-swell	1.00	Too clayey	0.50	Large stones content	0.46
		Depth to hard bedrock	0.64	Cutbanks cave	0.10	Gravel content	0.01
Charo, noncobbly----	40	Very limited Low strength	1.00	Very limited Depth to hard bedrock	1.00	Somewhat limited Depth to bedrock	0.01
		Shrink-swell	0.50	Too clayey	0.50	Large stones content	0.01
		Depth to hard bedrock	0.01	Cutbanks cave	0.10		
409: Santa Fe-----	85	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Cutbanks cave	0.10	Droughty	1.00
						Gravel content	0.83
						Large stones content	0.01
410: Zia-----	85	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
414: Wauquie-----	85	Very limited Slope	1.00	Very limited Cutbanks cave	1.00	Very limited Slope	1.00
		Shrink-swell	0.50	Slope	1.00	Droughty	0.82
		Frost action	0.50			Gravel content	0.18
						Large stones content	0.16

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
417: Jocity-----	85	Very limited Low strength Shrink-swell Flooding	 1.00 0.50 0.40	Very limited Cutbanks cave Depth to saturated zone	 1.00 0.15	Not limited	
418: Jocity-----	85	Very limited Low strength Shrink-swell Flooding	 1.00 0.50 0.40	Very limited Cutbanks cave Depth to saturated zone	 1.00 0.15	Not limited	
419: Santa Fe-----	40	Very limited Depth to hard bedrock Slope Shrink-swell Large stones content	 1.00 1.00 0.50 0.01	Very limited Depth to hard bedrock Slope Cutbanks cave Large stones content	 1.00 1.00 0.10 0.01	Very limited Depth to bedrock Slope Droughty Large stones content Gravel content	 1.00 1.00 1.00 1.00 0.61
Wauquie-----	30	Very limited Slope Frost action Large stones content	 1.00 0.50 0.08	Very limited Slope Cutbanks cave Large stones content	 1.00 1.00 0.08	Very limited Slope Droughty Gravel content Large stones content	 1.00 1.00 1.00 0.99
420: Pinavetes-----	85	Not limited		Very limited Cutbanks cave	 1.00	Very limited Droughty	 1.00
421: Gilco, moderately saline, sodic-----	90	Somewhat limited Flooding	 0.40	Somewhat limited Depth to saturated zone Cutbanks cave	 0.15 0.10	Very limited Salinity Sodium content	 1.00 1.00

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
422: Vessilla-----	35	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Droughty Slope Large stones content	1.00 1.00 1.00 0.01
Menefee-----	30	Somewhat limited Depth to soft bedrock Shrink-swell Frost action	1.00 0.50 0.50	Very limited Depth to soft bedrock Cutbanks cave	1.00 0.10	Very limited Depth to bedrock Droughty	1.00 0.99
Orlie-----	25	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
423: Gilco-----	85	Somewhat limited Flooding	0.40	Somewhat limited Depth to saturated zone Cutbanks cave	0.15 0.10	Not limited	
426: Aga, moderately saline, sodic-----	85	Somewhat limited Flooding	0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.15	Very limited Salinity Sodium content	1.00 1.00
427: Aga-----	85	Somewhat limited Flooding	0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.47	Not limited	

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
428: Aga, moderately saline, sodic-----	85	Somewhat limited Flooding	0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.15	Very limited Salinity Sodium content	1.00 1.00
430: Trail-----	85	Somewhat limited Flooding	0.40	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.08
431: Trail-----	85	Somewhat limited Flooding	0.40	Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.20
433: Peralta-----	85	Somewhat limited Flooding	0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.99	Somewhat limited Salinity	0.50
434: Peralta-----	85	Somewhat limited Flooding	0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.99	Somewhat limited Salinity	0.50
437: Peralta, moderately saline, sodic-----	85	Somewhat limited Flooding	0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.99	Very limited Salinity Sodium content	1.00 1.00
500: Osha-----	30	Very limited Slope	1.00	Very limited Slope Cutbanks cave Depth to hard bedrock	1.00 1.00 0.93	Very limited Slope Droughty Gravel content	1.00 1.00 0.42

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
503: Cajete-----	65	Very limited Slope Frost action	1.00 0.50	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Gravel content Slope Droughty	1.00 1.00 0.99
Cypher-----	25	Very limited Depth to hard bedrock Slope Frost action	1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty Gravel content Large stones content	1.00 1.00 1.00 0.96 0.32
504: Orejas-----	40	Very limited Depth to hard bedrock Shrink-swell Slope	1.00 0.50 0.16	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 0.16 0.10	Very limited Depth to bedrock Droughty Large stones content Slope	1.00 1.00 1.00 0.16
Guaje-----	35	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.99
600: Cypher-----	35	Very limited Depth to hard bedrock Slope Frost action	1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty Large stones content Gravel content	1.00 1.00 1.00 1.00 0.01

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
601: Laventana-----	85	Somewhat limited Shrink-swell Frost action Slope	 0.50 0.50 0.04	Very limited Cutbanks cave Depth to hard bedrock Slope	 1.00 0.42 0.04	Somewhat limited Droughty Slope	 0.30 0.04
603: Laventana-----	50	Very limited Slope Shrink-swell Frost action	 1.00 0.50 0.50	Very limited Slope Cutbanks cave Depth to hard bedrock	 1.00 1.00 0.32	Very limited Slope Droughty	 1.00 0.01
Mirand-----	35	Very limited Slope Shrink-swell Low strength	 1.00 1.00 1.00	Very limited Slope Too clayey Cutbanks cave	 1.00 0.50 0.10	Very limited Slope Large stones content Gravel content	 1.00 0.46 0.36
604: Cypher-----	55	Very limited Depth to hard bedrock Slope Frost action	 1.00 1.00 0.50	Very limited Depth to hard bedrock Slope	 1.00 1.00	Very limited Depth to bedrock Slope Droughty	 1.00 1.00 1.00
Mirand-----	30	Very limited Slope Shrink-swell Low strength	 1.00 1.00 0.22	Very limited Slope Too clayey Cutbanks cave	 1.00 0.12 0.10	Very limited Slope Large stones content Gravel content	 1.00 0.38 0.28
608: Osha, steep-----	60	Very limited Slope	 1.00	Very limited Slope Cutbanks cave	 1.00 1.00	Very limited Slope Droughty	 1.00 1.00
Osha-----	30	Very limited Slope	 1.00	Very limited Cutbanks cave Slope Dense layer	 1.00 1.00 0.50	Very limited Droughty Slope Gravel content	 1.00 1.00 0.01

Table 10B.--Roads and streets, shallow excavations, and lawns and landscaping--continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
823: Gilco, unprotected--	85	Somewhat limited Flooding	0.40	Somewhat limited Depth to saturated zone Cutbanks cave	0.15 0.10	Not limited	
827: Aga, unprotected----	85	Somewhat limited Flooding	0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.47	Not limited	
830: Trail, unprotected--	85	Somewhat limited Flooding	0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.15	Somewhat limited Droughty	0.01
831: Trail, unprotected--	85	Somewhat limited Flooding	0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.15	Somewhat limited Droughty	0.87
835: Peralta, unprotected	85	Very limited Flooding	1.00	Very limited Depth to saturated zone	0.99	Somewhat limited Flooding	0.60
		Shrink-swell	0.50	Flooding Cutbanks cave	0.60 0.10	Salinity	0.50
842: Peralta, moderately saline, sodic, unprotected-----	85	Somewhat limited Shrink-swell	0.50	Very limited Depth to saturated zone	0.99	Very limited Salinity	1.00
		Flooding	0.40	Cutbanks cave	0.10	Sodium content	1.00

Table 11A.--Sewage disposal

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
1: Silver-----	55	Very limited Slow water movement	1.00	Somewhat limited Slope	0.32
Clovis-----	35	Somewhat limited Slow water movement	0.46	Very limited Seepage	1.00
				Slope	0.32
2: Clovis-----	35	Very limited Slow water movement	1.00	Very limited Seepage	1.00
				Slope	0.92
Prieta-----	35	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Large stones content	0.43	Slope	1.00
		Slope	0.04	Large stones content	1.00
Silver-----	20	Very limited Slow water movement	1.00	Somewhat limited Slope	0.92
3: Montecito-----	60	Very limited Slow water movement	1.00	Somewhat limited Slope	0.32
Orejas-----	30	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Large stones content	0.67	Large stones content	1.00
				Slope	0.32
4: Montecito-----	45	Very limited Slope	1.00	Very limited Slope	1.00
		Slow water movement	0.46	Seepage	0.53
Montecito, bouldery-	35	Very limited Slow water movement	1.00	Very limited Seepage	1.00
		Slope	1.00	Slope	1.00

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
10: Trail-----	85	Very limited Filtering capacity Depth to saturated zone Flooding	1.00 0.40 0.40	Very limited Seepage Flooding	1.00 0.40
11: Trail-----	85	Very limited Flooding Depth to saturated zone	1.00 0.40	Very limited Flooding Seepage	1.00 1.00
13: Sandoval-----	65	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock Slope	1.00 0.68
Querencia-----	20	Somewhat limited Slow water movement	0.46	Somewhat limited Slope Seepage	0.68 0.53
15: Camino-----	40	Very limited Slow water movement Depth to bedrock	1.00 0.73	Somewhat limited Slope Depth to soft bedrock	0.32 0.32
Sandoval-----	35	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock Slope	1.00 0.68
16: Rock outcrop-----	50	Not rated		Not rated	
Prieta-----	30	Very limited Depth to bedrock Large stones content Slope	1.00 0.06 0.04	Very limited Depth to hard bedrock Slope Large stones content	1.00 1.00 0.58
17: Vessilla-----	35	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.04	Very limited Depth to hard bedrock Slope	1.00 1.00

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
17: Menefee-----	25	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	0.04	Slope	1.00
Rock outcrop-----	20	Not rated		Not rated	
18: Sparham-----	85	Very limited Flooding	1.00	Very limited Flooding	1.00
		Slow water movement	1.00		
20: Gilco-----	85	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage	0.53
		Depth to saturated zone	0.40	Flooding	0.40
		Flooding	0.40		
21: Rock outcrop-----	60	Not rated		Not rated	
Hackroy-----	25	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
				Slope	0.68
22: Aga-----	85	Somewhat limited Depth to saturated zone	0.94	Very limited Seepage	1.00
		Slow water movement	0.46	Flooding	0.40
		Flooding	0.40	Depth to saturated zone	0.40
23: Hickman-----	85	Very limited Slow water movement	1.00	Somewhat limited Seepage	0.53
		Flooding	0.40	Flooding	0.40
24: Orlie-----	45	Very limited Slow water movement	1.00	Somewhat limited Seepage	0.53
				Slope	0.08
Sparham-----	35	Very limited Flooding	1.00	Very limited Flooding	1.00
		Slow water movement	1.00		

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
25: Gilco-----	85	Somewhat limited Slow water movement Depth to saturated zone Flooding	0.46 0.40 0.40	Somewhat limited Seepage Flooding	0.53 0.40
26: Orlie-----	85	Very limited Slow water movement	1.00	Somewhat limited Slope	0.32
27: Aga-----	85	Very limited Filtering capacity Depth to saturated zone Flooding	1.00 0.94 0.40	Very limited Seepage Flooding Depth to saturated zone	1.00 0.40 0.40
29: Trail-----	85	Very limited Filtering capacity Depth to saturated zone Flooding	1.00 0.40 0.40	Very limited Seepage Flooding	1.00 0.40
31: Riverwash-----	90	Very limited Flooding Filtering capacity Seepage, bottom layer	1.00 1.00 1.00	Very limited Flooding Seepage	1.00 1.00
33: Pits-----	100	Not rated		Not rated	
34: Ildefonso-----	55	Somewhat limited Large stones content Slow water movement	0.70 0.46	Somewhat limited Slope Seepage Large stones content	0.68 0.53 0.29
Witt-----	30	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage Slope	0.53 0.08

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
41: Dune land-----	100	Very limited Filtering capacity Seepage, bottom layer Slope	1.00 1.00 0.16	Very limited Seepage Slope	1.00 1.00
47: Cascajo-----	85	Very limited Filtering capacity Slope	1.00 1.00	Very limited Slope Seepage	1.00 1.00
51: Sparham-----	85	Very limited Flooding Slow water movement Depth to saturated zone	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
52: Totavi-----	85	Very limited Filtering capacity Seepage, bottom layer Flooding	1.00 1.00 0.40	Very limited Seepage Flooding Slope	1.00 0.40 0.08
53: Witt-----	55	Very limited Slow water movement	1.00	Somewhat limited Seepage Slope	0.53 0.32
Harvey-----	30	Very limited Slow water movement	1.00	Very limited Seepage Slope	1.00 0.32
54: Harvey-----	45	Somewhat limited Slow water movement Slope	0.46 0.16	Very limited Slope Seepage	1.00 0.53
Cascajo-----	40	Very limited Filtering capacity Slope	1.00 0.16	Very limited Seepage Slope	1.00 1.00
55: La Fonda-----	85	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage Slope	0.53 0.08

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
56: Ildefonso-----	85	Very limited Slope Large stones content Slow water movement	1.00 0.53 0.46	Very limited Slope Seepage Large stones content	1.00 0.53 0.12
57: Badland-----	90	Not rated		Not rated	
58: Deama-----	45	Very limited Depth to bedrock Slope Large stones content	1.00 1.00 0.01	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.53
Elpedro-----	35	Very limited Slow water movement Slope	1.00 0.04	Very limited Slope Seepage	1.00 0.53
59: Harvey-----	35	Very limited Slow water movement	1.00	Somewhat limited Slope Seepage	0.92 0.53
Ildefonso-----	35	Somewhat limited Slope Large stones content	0.37 0.02	Very limited Slope Seepage	1.00 1.00
La Fonda-----	15	Somewhat limited Slow water movement	0.46	Somewhat limited Slope Seepage	0.68 0.53
63: Placitas-----	85	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 1.00
64: Skyvillage-----	40	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 1.00
Ildefonso-----	35	Very limited Slope	1.00	Very limited Slope Seepage	1.00 1.00

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
65: Ildefonso-----	50	Very limited Slope	1.00	Very limited Slope Seepage	1.00 1.00
Harvey-----	30	Somewhat limited Slope Slow water movement	0.84 0.46	Very limited Slope Seepage	1.00 1.00
66: Zia-----	85	Not limited		Very limited Seepage Slope	1.00 0.68
67: Sandoval-----	40	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00
Poley-----	35	Very limited Slow water movement Slope	1.00 1.00	Very limited Seepage Slope	1.00 1.00
68: Penistaja-----	45	Very limited Slow water movement	1.00	Somewhat limited Slope Seepage	0.68 0.53
Querencia-----	35	Somewhat limited Slow water movement	0.46	Very limited Seepage Slope	1.00 0.68
71: Palon-----	85	Very limited Slope Seepage, bottom layer Large stones content	1.00 1.00 0.05	Very limited Slope Seepage Large stones content	1.00 1.00 0.26
72: Palon-----	85	Very limited Slope Seepage, bottom layer Large stones content	1.00 1.00 1.00	Very limited Slope Seepage Large stones content	1.00 1.00 1.00

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
74: Origo-----	50	Very limited Slope Seepage, bottom layer Large stones content	1.00 1.00 0.55	Very limited Slope Seepage Large stones content	1.00 1.00 0.94
Pavo-----	25	Very limited Seepage, bottom layer Slow water movement Slope	1.00 1.00 0.84	Very limited Seepage Slope	1.00 1.00
75: Origo-----	85	Very limited Slope Seepage, bottom layer Large stones content	1.00 1.00 0.99	Very limited Slope Seepage Large stones content	1.00 1.00 1.00
82: Calaveras-----	85	Very limited Slope Seepage, bottom layer	1.00 1.00	Very limited Slope Seepage	1.00 1.00
83: Calaveras-----	60	Very limited Slope Seepage, bottom layer Large stones content	1.00 1.00 0.01	Very limited Slope Seepage	1.00 1.00
Rubble land-----	20	Very limited Filtering capacity Slope Large stones content Seepage, bottom layer	1.00 1.00 1.00 1.00	Very limited Slope Large stones content Seepage	1.00 1.00 1.00
85: Redondo-----	85	Very limited Slope Seepage, bottom layer	1.00 1.00	Very limited Slope Seepage	1.00 1.00

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
86: Redondo-----	85	Very limited Slope Seepage, bottom layer Large stones content	1.00 1.00 0.53	Very limited Slope Seepage Large stones content	1.00 1.00 0.37
87: Redondo-----	50	Very limited Slope Seepage, bottom layer	1.00 1.00	Very limited Slope Seepage Large stones content	1.00 1.00 0.02
Rubble land-----	25	Very limited Filtering capacity Slope Large stones content Seepage, bottom layer	1.00 1.00 1.00 1.00	Very limited Slope Large stones content Seepage	1.00 1.00 1.00
88: Totavi-----	45	Very limited Filtering capacity Seepage, bottom layer Flooding	1.00 1.00 0.40	Very limited Seepage Flooding Slope	1.00 0.40 0.08
Jemez-----	30	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 0.16	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.53
Rock outcrop-----	15	Not rated		Not rated	
91: Zia-----	85	Not limited		Very limited Seepage	1.00
92: Galisteo, moderately saline, sodic-----	85	Very limited Slow water movement	1.00	Not limited	
93: Zia-----	85	Not limited		Very limited Seepage Slope	1.00 0.08

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
95: El Rancho-----	85	Somewhat limited Slow water movement	0.46	Very limited Seepage	1.00
97: El Rancho-----	85	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage	0.53
100: Orejas-----	40	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Large stones content	0.61	Large stones content	1.00
Rock outcrop-----	40	Not rated		Not rated	
101: Blancot-----	55	Very limited Slow water movement	1.00	Very limited Seepage	1.00
				Slope	0.68
Lybrook-----	25	Very limited Slow water movement	1.00	Not limited	
102: Sparham-----	85	Very limited Flooding Slow water movement	1.00 1.00	Very limited Flooding	1.00
104: Cochiti-----	50	Very limited Slow water movement Slope	1.00 1.00	Very limited Seepage Slope	1.00 1.00
Montecito-----	30	Not limited		Very limited Seepage Slope	1.00 0.08
105: Badland-----	50	Not rated		Not rated	
Menefee-----	30	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00
106: Stumble-----	50	Very limited Filtering capacity Slope	1.00 1.00	Very limited Slope Seepage	1.00 1.00

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
106: Stumble, sandy-----	30	Very limited Filtering capacity Flooding	1.00 0.40	Very limited Seepage Slope Flooding	1.00 0.92 0.40
108: Embudo-----	85	Somewhat limited Slope	0.01	Very limited Seepage Slope	1.00 1.00
109: Embudo-----	50	Not limited		Very limited Seepage Slope	1.00 0.92
Tijeras-----	35	Not limited		Very limited Seepage Slope	1.00 0.32
110: Rock outcrop-----	45	Not rated		Not rated	
Saido-----	40	Very limited Slope Slow water movement	1.00 0.46	Very limited Slope Seepage	1.00 0.53
111: Rock outcrop-----	50	Not rated		Not rated	
Zia-----	35	Very limited Slope	1.00	Very limited Slope Seepage	1.00 1.00
112: Tijeras-----	85	Not limited		Very limited Seepage Slope	1.00 0.08
114: San Mateo-----	40	Very limited Slow water movement Flooding	1.00 0.40	Somewhat limited Flooding	0.40
Zia-----	40	Not limited		Very limited Seepage Slope	1.00 0.68
120: Pinavetes-----	85	Very limited Filtering capacity	1.00	Very limited Seepage Slope	1.00 0.32
124: Rock outcrop-----	90	Not rated		Not rated	

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
129: Menefee-----	85	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
130: Pinavetes-----	45	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
				Slope	0.08
Galisteo, moderately saline, sodic-----	40	Very limited Slow water movement	1.00	Somewhat limited Flooding	0.40
		Flooding	0.40		
142: Grieta-----	85	Somewhat limited Slow water movement	0.46	Very limited Seepage	1.00
				Slope	0.08
143: Clovis-----	85	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage	0.53
				Slope	0.08
145: Grieta-----	55	Not limited		Very limited Seepage	1.00
				Slope	0.32
Sheppard-----	40	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
				Slope	0.92
146: Sedmar-----	85	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slope	0.01	Slope	1.00
150: Doakum-----	55	Very limited Slow water movement	1.00	Somewhat limited Seepage	0.53
				Slope	0.08
Betonnies-----	35	Not limited		Very limited Seepage	1.00
				Slope	1.00

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
162: Hackroy-----	45	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock Slope	1.00 0.08
Nyjack-----	40	Very limited Depth to bedrock Slow water movement	1.00 1.00	Very limited Depth to soft bedrock Seepage Slope	1.00 1.00 0.08
163: Jemez-----	85	Very limited Depth to bedrock Slow water movement Slope	1.00 1.00 0.01	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.53
170: San Mateo-----	85	Very limited Slow water movement Flooding	1.00 0.40	Somewhat limited Flooding	0.40
180: Councelor-----	40	Very limited Slow water movement Slope	1.00 1.00	Very limited Seepage Slope	1.00 1.00
Eslendo-----	30	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00
Mespun-----	25	Very limited Filtering capacity Slope	1.00 1.00	Very limited Seepage Slope	1.00 1.00
183: Sheppard-----	85	Very limited Filtering capacity Slope	1.00 0.63	Very limited Slope Seepage	1.00 1.00
185: Frijoles-----	90	Very limited Filtering capacity	1.00	Very limited Seepage Slope	1.00 0.68
190: Zia-----	35	Somewhat limited Slope	0.84	Very limited Seepage Slope	1.00 1.00

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
190: Skyvillage-----	25	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slope	1.00	Seepage Slope	1.00
Rock outcrop-----	15	Not rated		Not rated	
191: Sheppard-----	85	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
				Slope	0.92
200: Sedillo-----	85	Very limited Slope	1.00	Very limited Seepage Slope	1.00 1.00
201: Rock outcrop-----	55	Not rated		Not rated	
Sedgran-----	35	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slope	1.00	Slope Seepage	1.00 1.00
206: Pinitos-----	85	Very limited Slow water movement	1.00	Very limited Slope	1.00
207: Penistaja-----	60	Somewhat limited Slow water movement	0.46	Very limited Seepage	1.00
				Slope	0.08
Zia-----	25	Not limited		Very limited Seepage Slope	1.00 0.68
208: Sedillo-----	85	Very limited Slope	1.00	Very limited Slope Seepage	1.00 1.00
210: Ildefonso-----	85	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	0.97	Large stones content	1.00
		Slow water movement	0.46	Seepage	0.53

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
211: Zia-----	45	Somewhat limited Slow water movement	0.46	Very limited Seepage	1.00
				Slope	0.92
Clovis-----	30	Somewhat limited Slow water movement	0.46	Somewhat limited Slope	0.68
				Seepage	0.53
213: Pinavetes-----	55	Very limited Filtering capacity Slope	1.00 1.00	Very limited Slope	1.00
				Seepage	1.00
Rock outcrop-----	30	Not rated		Not rated	
215: Ess-----	60	Very limited Slope	1.00	Very limited Seepage	1.00
		Slow water movement	0.46	Slope	1.00
		Large stones content	0.33	Large stones content	1.00
Rock outcrop-----	30	Not rated		Not rated	
217: Witt-----	85	Somewhat limited Slow water movement	0.46	Somewhat limited Slope	0.68
				Seepage	0.53
218: Ildefonso-----	85	Somewhat limited Large stones content Slope	0.71 0.01	Very limited Seepage	1.00
				Large stones content Slope	1.00 1.00
220: Rock outcrop-----	40	Not rated		Not rated	
Vessilla-----	30	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00		
Menefee-----	20	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
226: Galisteo, moderately saline, sodic-----	85	Very limited Slow water movement	1.00	Not limited	
227: Hagerman-----	65	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slow water movement	1.00	Slope	0.08
Bond-----	20	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
				Slope	0.68
228: Winona-----	85	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.53
230: Skyvillage-----	35	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slope	0.63	Slope	1.00
Sandoval-----	25	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	0.63	Slope	1.00
Rock outcrop-----	20	Not rated		Not rated	
231: Querencia-----	85	Somewhat limited Slow water movement	0.46	Somewhat limited Slope	0.68
				Seepage	0.53
234: Querencia-----	60	Somewhat limited Slow water movement	0.46	Somewhat limited Slope	0.68
				Seepage	0.53
Zia-----	20	Not limited		Very limited Seepage	1.00
				Slope	0.68
235: Sandoval-----	85	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	0.04	Slope	1.00

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
236: Sparank, moderately saline, sodic-----	85	Very limited Flooding Slow water movement	1.00 1.00	Very limited Flooding	1.00
237: Sparank-----	85	Very limited Flooding Slow water movement	1.00 1.00	Very limited Flooding	1.00
240: Penistaja-----	45	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage Slope	0.53 0.08
Hagerman-----	35	Very limited Depth to bedrock Slow water movement	1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 0.08
250: Pinavetes-----	90	Very limited Filtering capacity Slope	1.00 0.16	Very limited Seepage Slope	1.00 1.00
262: Pastura-----	90	Very limited Depth to cemented pan	1.00	Very limited Depth to cemented pan Seepage Slope	1.00 0.53 0.08
270: Blancot-----	40	Not limited		Very limited Seepage Slope	1.00 0.32
Councilor-----	30	Not limited		Very limited Seepage	1.00
Tsowie-----	25	Very limited Slow water movement	1.00	Very limited Seepage	1.00
281: Carjo-----	90	Very limited Depth to bedrock Seepage, bottom layer	1.00 1.00	Very limited Depth to hard bedrock Seepage Slope	1.00 1.00 0.68

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
282: Tocal-----	85	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock Slope Seepage	1.00 0.92 0.53
283: Mirand-----	45	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope	1.00
Alanos-----	30	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope Large stones content	1.00 0.03
290: Alanos-----	50	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope Seepage	1.00 0.53
Rock outcrop-----	30	Not rated		Not rated	
300: Waumac-----	50	Very limited Seepage, bottom layer	1.00	Very limited Seepage Slope	1.00 0.32
Bamac-----	35	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage Slope	1.00 0.32
301: Vastine-----	45	Very limited Depth to saturated zone Seepage, bottom layer Slow water movement Flooding	1.00 1.00 0.46 0.40	Very limited Seepage Depth to saturated zone Flooding	1.00 1.00 0.40
Jarola-----	40	Very limited Depth to saturated zone Seepage, bottom layer Slow water movement Flooding	1.00 1.00 0.46 0.40	Very limited Seepage Depth to saturated zone Flooding Slope	1.00 1.00 0.40 0.08

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
302: Tranquilar-----	50	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Slope	1.00 0.68
Jarmillo-----	30	Very limited Seepage, bottom layer Slow water movement	1.00 1.00	Very limited Seepage Slope	1.00 0.68
304: Cosey-----	45	Very limited Slow water movement Slope	1.00 0.37	Very limited Slope Seepage	1.00 0.53
Jarmillo-----	40	Very limited Seepage, bottom layer Slope	1.00 0.37	Very limited Seepage Slope	1.00 1.00
307: Flugle-----	60	Not limited		Very limited Seepage Slope	1.00 0.08
Waumac-----	25	Very limited Seepage, bottom layer	1.00	Very limited Seepage Slope	1.00 0.68
308: Cajete-----	85	Very limited Seepage, bottom layer	1.00	Very limited Seepage Slope	1.00 0.32
311: Cosey-----	35	Very limited Slow water movement Slope Large stones content	1.00 0.84 0.03	Very limited Slope Seepage	1.00 0.53
Tranquilar-----	30	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Slope Seepage	1.00 1.00 0.53

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
311: Calaveras-----	25	Very limited Seepage, bottom layer Slope Slow water movement	1.00 0.84 0.46	Very limited Seepage Slope	1.00 1.00
312: Royosa-----	90	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage Slope	1.00 0.68
314: Fragua-----	40	Not limited		Very limited Seepage Slope	1.00 0.68
Waumac-----	30	Very limited Seepage, bottom layer	1.00	Very limited Seepage Slope	1.00 0.68
Royosa-----	25	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage Slope	1.00 0.68
317: Elpedro-----	85	Somewhat limited Slow water movement	0.46	Somewhat limited Slope Seepage	0.68 0.53
319: Bamac-----	60	Very limited Filtering capacity Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Seepage	1.00 1.00
Rock outcrop-----	25	Not rated		Not rated	
320: Sparham-----	85	Very limited Flooding Slow water movement	1.00 1.00	Very limited Flooding	1.00
321: Waumac-----	60	Very limited Seepage, bottom layer Slope	1.00 0.01	Very limited Seepage Slope	1.00 1.00

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
321: Royosa-----	30	Very limited Seepage, bottom layer Filtering capacity	1.00 1.00	Very limited Seepage Slope	1.00 0.68
322: Fragua-----	85	Very limited Filtering capacity Slope Depth to bedrock	1.00 1.00 0.94	Very limited Slope Seepage Depth to soft bedrock	1.00 1.00 0.84
324: Rock outcrop-----	30	Not rated		Not rated	
Atarque-----	25	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.53
Menefee-----	25	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00
325: Rock outcrop-----	35	Not rated		Not rated	
Espiritu-----	25	Very limited Slope Slow water movement	1.00 0.46	Very limited Slope Seepage Large stones content	1.00 0.53 0.01
Vessilla-----	25	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 1.00
342: Waumac-----	35	Very limited Seepage, bottom layer Slope	1.00 0.84	Very limited Seepage Slope	1.00 1.00
Vessilla-----	25	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 1.00	Very limited Depth to hard bedrock Seepage Slope	1.00 1.00 1.00
Rock outcrop-----	20	Not rated		Not rated	

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
345: Espiritu-----	50	Very limited Slope Slow water movement	1.00 0.46	Very limited Slope Seepage	1.00 1.00
Bamac-----	35	Very limited Filtering capacity Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Seepage	1.00 1.00
346: Espiritu, cobbly----	70	Very limited Slope Slow water movement Large stones content	1.00 0.46 0.01	Very limited Slope Seepage Large stones content	1.00 1.00 0.39
Bamac-----	20	Very limited Filtering capacity Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Seepage	1.00 1.00
348: Wauquie-----	60	Very limited Slope	1.00	Very limited Slope Seepage	1.00 1.00
Rock outcrop-----	20	Not rated		Not rated	
353: Cochiti-----	50	Very limited Filtering capacity Slope	1.00 1.00	Very limited Slope Seepage	1.00 1.00
Espiritu-----	45	Very limited Filtering capacity Slope	1.00 1.00	Very limited Slope Seepage	1.00 1.00
354: Waumac Variant-----	85	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.01	Very limited Depth to soft bedrock Slope	1.00 1.00

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
358: Deama-----	35	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.53
Elpedro-----	25	Very limited Slow water movement	1.00	Very limited Slope	1.00
		Slope	1.00	Seepage	0.53
Rock outcrop-----	25	Not rated		Not rated	
396: Atarque-----	30	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
Menefee-----	30	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
Rock outcrop-----	25	Not rated		Not rated	
397: Rock outcrop-----	30	Not rated		Not rated	
Cucho-----	25	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	1.00		
Vessilla-----	25	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00		
398: Espiritu-----	45	Very limited Slope	1.00	Very limited Slope	1.00
		Slow water movement	0.46	Seepage	1.00
Cucho-----	35	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	1.00		

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
399: Cucho-----	45	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
		Slow water movement	1.00		
Teco-----	35	Very limited Slow water movement	1.00	Very limited Slope	1.00
		Slope	1.00	Seepage	1.00
405: Charo-----	50	Very limited Slow water movement	1.00	Very limited Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	0.08
Charo, noncobbly----	40	Very limited Slow water movement	1.00	Very limited Depth to hard bedrock	1.00
		Depth to bedrock	1.00		
409: Santa Fe-----	85	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
410: Zia-----	85	Not limited		Very limited Seepage	1.00
414: Wauquie-----	85	Very limited Slope	1.00	Very limited Slope	1.00
		Slow water movement	0.46	Seepage	1.00
417: Jocity-----	85	Very limited Slow water movement	1.00	Very limited Seepage	1.00
		Depth to saturated zone	0.40	Flooding	0.40
		Flooding	0.40		
418: Jocity-----	85	Very limited Slow water movement	1.00	Very limited Seepage	1.00
		Depth to saturated zone	0.40	Flooding	0.40
		Flooding	0.40		

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
419: Santa Fe-----	40	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Large stones content	0.01	Seepage	0.53
				Large stones content	0.02
Wauquie-----	30	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	0.08	Seepage	1.00
				Large stones content	0.78
Rock outcrop-----	20	Not rated		Not rated	
420: Pinavetes-----	85	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
421: Gilco, moderately saline, sodic-----	90	Somewhat limited Slow water movement	0.46	Very limited Seepage	1.00
		Depth to saturated zone	0.40	Flooding	0.40
		Flooding	0.40		
422: Vessilla-----	35	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slope	1.00	Slope	1.00
Menefee-----	30	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
				Slope	0.92
Orlie-----	25	Very limited Slow water movement	1.00	Somewhat limited Slope	0.32
423: Gilco-----	85	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage	0.53
		Depth to saturated zone	0.40	Flooding	0.40
		Flooding	0.40	Slope	0.08

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
426: Aga, moderately saline, sodic-----	85	Very limited Filtering capacity Depth to saturated zone Flooding	1.00 0.40 0.40	Very limited Seepage Flooding	1.00 0.40
427: Aga-----	85	Somewhat limited Depth to saturated zone Slow water movement Flooding	0.94 0.46 0.40	Very limited Seepage Flooding Depth to saturated zone	1.00 0.40 0.40
428: Aga, moderately saline, sodic-----	85	Very limited Filtering capacity Depth to saturated zone Flooding	1.00 0.40 0.40	Very limited Seepage Flooding	1.00 0.40
430: Trail-----	85	Very limited Filtering capacity Flooding	1.00 0.40	Very limited Seepage Flooding	1.00 0.40
431: Trail-----	85	Very limited Filtering capacity Flooding	1.00 0.40	Very limited Seepage Flooding	1.00 0.40
433: Peralta-----	85	Very limited Depth to saturated zone Slow water movement Flooding	1.00 0.46 0.40	Very limited Depth to saturated zone Seepage Flooding	1.00 0.53 0.40
434: Peralta-----	85	Very limited Depth to saturated zone Seepage, bottom layer Slow water movement Flooding	1.00 1.00 0.46 0.40	Very limited Seepage Depth to saturated zone Flooding	1.00 1.00 0.40

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
437: Peralta, moderately saline, sodic-----	85	Very limited Depth to saturated zone Slow water movement Flooding	1.00 0.46 0.40	Very limited Depth to saturated zone Seepage Flooding	1.00 0.53 0.40
500: Rock outcrop-----	40	Not rated		Not rated	
Osha-----	30	Very limited Filtering capacity Slope Seepage, bottom layer Depth to bedrock	1.00 1.00 1.00 0.98	Very limited Slope Seepage Depth to hard bedrock	1.00 1.00 0.93
Rubble land-----	20	Very limited Filtering capacity Slope Large stones content Seepage, bottom layer	1.00 1.00 1.00 1.00	Very limited Slope Large stones content Seepage	1.00 1.00 1.00
503: Cajete-----	65	Very limited Seepage, bottom layer Slope	1.00 1.00	Very limited Slope Seepage	1.00 1.00
Cypher-----	25	Very limited Depth to bedrock Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 1.00
504: Orejas-----	40	Very limited Depth to bedrock Slope	1.00 0.16	Very limited Depth to hard bedrock Slope	1.00 1.00
Guaje-----	35	Not limited		Very limited Seepage Slope	1.00 0.68
600: Rock outcrop-----	50	Not rated		Not rated	

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
600: Cypher-----	35	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
				Seepage	0.53
601: Laventana-----	85	Somewhat limited Depth to bedrock	0.78	Very limited Slope	1.00
		Slow water movement	0.46	Seepage	0.53
		Slope	0.04	Depth to hard bedrock	0.42
603: Laventana-----	50	Very limited Slope	1.00	Very limited Slope	1.00
		Depth to bedrock	0.73	Seepage	0.53
		Slow water movement	0.46	Depth to hard bedrock	0.32
Mirand-----	35	Very limited Slow water movement	1.00	Very limited Slope	1.00
		Slope	1.00		
604: Cypher-----	55	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Mirand-----	30	Very limited Slow water movement	1.00	Very limited Slope	1.00
		Slope	1.00		
608: Osha, steep-----	60	Very limited Slope	1.00	Very limited Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
Osha-----	30	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00
		Slope	1.00	Slope	1.00
823: Gilco, unprotected--	85	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage	0.53
		Depth to saturated zone	0.40	Flooding	0.40
		Flooding	0.40	Slope	0.08

Table 11A.--Sewage disposal--continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
827: Aga, unprotected----	85	Somewhat limited Depth to saturated zone Slow water movement Flooding	0.94 0.46 0.40	Very limited Seepage Flooding Depth to saturated zone	1.00 0.40 0.40
830: Trail, unprotected--	85	Very limited Filtering capacity Depth to saturated zone Flooding	1.00 0.40 0.40	Very limited Seepage Flooding	1.00 0.40
831: Trail, unprotected--	85	Very limited Filtering capacity Depth to saturated zone Flooding	1.00 0.40 0.40	Very limited Seepage Flooding	1.00 0.40
835: Peralta, unprotected	85	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
842: Peralta, moderately saline, sodic, unprotected-----	85	Very limited Depth to saturated zone Slow water movement Flooding	1.00 0.46 0.40	Very limited Depth to saturated zone Seepage Flooding	1.00 0.53 0.40
850: Water-----	95	Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated	

Table 11B.--Landfills

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1: Silver-----	55	Not limited		Not limited		Not limited	
Clovis-----	35	Not limited		Not limited		Not limited	
2: Clovis-----	35	Not limited		Not limited		Somewhat limited Seepage	0.52
Prieta-----	35	Very limited Depth to bedrock Large stones content Slope	1.00 0.43 0.04	Somewhat limited Slope	0.04	Very limited Depth to bedrock Large stones content Gravel content Slope	1.00 0.43 0.05 0.04
Silver-----	20	Not limited		Not limited		Not limited	
3: Montecito-----	60	Not limited		Not limited		Not limited	
Orejas-----	30	Very limited Depth to bedrock Large stones content Too clayey	1.00 0.67 0.50	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Large stones content Too clayey Gravel content	1.00 0.67 0.50 0.01
4: Montecito-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Montecito, bouldery-	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
10: Trail-----	85	Very limited Depth to saturated zone Too sandy Flooding	1.00 0.50 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Seepage Too sandy	1.00 0.50
11: Trail-----	85	Very limited Flooding Depth to saturated zone Too sandy	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Seepage Too sandy	1.00 0.50
13: Sandoval-----	65	Very limited Depth to bedrock	1.00	Not limited		Very limited Depth to bedrock	1.00
Querencia-----	20	Not limited		Not limited		Not limited	
15: Camino-----	40	Very limited Depth to bedrock	1.00	Not limited		Very limited Hard to compact Depth to bedrock	1.00 0.32
Sandoval-----	35	Very limited Depth to bedrock	1.00	Not limited		Very limited Depth to bedrock	1.00
16: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Prieta-----	30	Very limited Depth to bedrock Large stones content Slope	1.00 0.06 0.04	Somewhat limited Slope	0.04	Very limited Depth to bedrock Gravel content Large stones content Slope	1.00 0.07 0.06 0.04

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17: Vessilla-----	35	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Seepage Slope	1.00 0.52 0.04
Menefee-----	25	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04
Rock outcrop-----	20	Not rated		Not rated		Not rated	
18: Sparham-----	85	Very limited Flooding Excess sodium Too clayey	1.00 1.00 0.50	Very limited Flooding	1.00	Very limited Sodium content Too clayey	1.00 0.50
20: Gilco-----	85	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Not limited	
21: Rock outcrop-----	60	Not rated		Not rated		Not rated	
Hackroy-----	25	Very limited Depth to bedrock Too clayey	1.00 1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Too clayey Hard to compact	1.00 1.00 1.00
22: Aga-----	85	Very limited Depth to saturated zone Too sandy Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Too sandy Seepage	1.00 1.00

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23: Hickman-----	85	Somewhat limited Too clayey Flooding	0.50 0.40	Somewhat limited Flooding	0.40	Somewhat limited Too clayey	0.50
24: Orlie-----	45	Not limited		Not limited		Not limited	
Sparham-----	35	Very limited Flooding Too clayey Excess sodium	1.00 1.00 1.00	Very limited Flooding	1.00	Very limited Too clayey Sodium content	1.00 1.00
25: Gilco-----	85	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Not limited	
26: Orlie-----	85	Not limited		Not limited		Not limited	
27: Aga-----	85	Very limited Depth to saturated zone Too sandy Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Too sandy Seepage	1.00 1.00
29: Trail-----	85	Very limited Depth to saturated zone Too sandy Flooding	1.00 0.50 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Seepage Too sandy	1.00 0.50
31: Riverwash-----	90	Very limited Flooding Seepage, bottom layer Too sandy	1.00 1.00 1.00	Very limited Flooding Seepage	1.00 1.00	Very limited Too sandy Seepage	1.00 1.00

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
33: Pits-----	100	Not rated		Not limited		Not rated	
34: Ildefonso-----	55	Somewhat limited Large stones content	0.93	Not limited		Somewhat limited Large stones content	0.93
Witt-----	30	Not limited		Not limited		Not limited	
41: Dune land-----	100	Very limited Seepage, bottom layer Too sandy Slope	1.00 1.00 0.16	Very limited Seepage Slope	1.00 0.16	Very limited Too sandy Seepage Slope	1.00 1.00 0.16
47: Cascajo-----	85	Very limited Slope Too sandy Large stones content	1.00 0.50 0.06	Very limited Slope	1.00	Very limited Seepage Slope Gravel content Too sandy Large stones content	1.00 1.00 0.90 0.50 0.06
51: Sparham-----	85	Very limited Flooding Depth to saturated zone Excess sodium Too clayey	1.00 1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Sodium content Too clayey	1.00 1.00 0.50
52: Totavi-----	85	Very limited Seepage, bottom layer Too sandy Flooding	1.00 0.50 0.40	Very limited Seepage Flooding	1.00 0.40	Very limited Seepage Too sandy	1.00 0.50

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
53: Witt-----	55	Not limited		Not limited		Not limited	
Harvey-----	30	Not limited		Not limited		Not limited	
54: Harvey-----	45	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16
Cascajo-----	40	Very limited Too sandy Slope	1.00 0.16	Somewhat limited Slope	0.16	Very limited Too sandy Seepage Gravel content Slope	1.00 1.00 0.84 0.16
55: La Fonda-----	85	Not limited		Not limited		Not limited	
56: Ildefonso-----	85	Very limited Slope Large stones content	1.00 0.83	Very limited Slope	1.00	Very limited Slope Large stones content Gravel content	1.00 0.83 0.01
57: Badland-----	90	Not rated		Very limited Depth to bedrock Slope	1.00 1.00	Not rated	
58: Deama-----	45	Very limited Slope Depth to bedrock Large stones content	1.00 1.00 0.01	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Carbonate content Gravel content Large stones content	1.00 1.00 1.00 0.09 0.01
Elpedro-----	35	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04	Somewhat limited Slope	0.04

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
59: Harvey-----	35	Not limited		Not limited		Not limited	
Ildefonso-----	35	Very limited Too sandy Large stones content Slope	1.00 0.56 0.37	Somewhat limited Slope	0.37	Very limited Too sandy Seepage Large stones content Slope Gravel content	1.00 1.00 0.56 0.37 0.36
La Fonda-----	15	Not limited		Not limited		Not limited	
63: Placitas-----	85	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Gravel content Seepage	1.00 1.00 0.98 0.52
64: Skyvillage-----	40	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Seepage	1.00 1.00 0.52
Ildefonso-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content Seepage	1.00 0.86 0.52
65: Ildefonso-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content Seepage	1.00 0.95 0.52
Harvey-----	30	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Somewhat limited Slope Seepage	0.84 0.52

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
66: Zia-----	85	Not limited		Not limited		Somewhat limited Seepage	0.52
67: Sandoval-----	40	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope	1.00 1.00
Poley-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Seepage	1.00 0.52
68: Penistaja-----	45	Not limited		Not limited		Not limited	
Querencia-----	35	Not limited		Not limited		Not limited	
71: Palon-----	85	Very limited Slope Seepage, bottom layer Large stones content	1.00 1.00 0.12	Very limited Slope Seepage	1.00 1.00	Very limited Slope Gravel content Seepage Large stones content	1.00 0.67 0.52 0.12
72: Palon-----	85	Very limited Slope Seepage, bottom layer Large stones	1.00 1.00 1.00	Very limited Slope Seepage	1.00 1.00	Very limited Slope Large stones Seepage Gravel content	1.00 1.00 0.52 0.01

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74: Origo-----	50	Very limited Slope Seepage, bottom layer Large stones content	1.00 1.00 0.67	Very limited Slope Seepage	1.00 1.00	Very limited Slope Large stones content Seepage Gravel content	1.00 0.67 0.52 0.39
Pavo-----	25	Very limited Seepage, bottom layer Slope	1.00 0.84	Very limited Seepage Slope	1.00 0.84	Somewhat limited Slope Seepage	0.84 0.52
75: Origo-----	85	Very limited Slope Seepage, bottom layer Large stones content	1.00 1.00 0.99	Very limited Slope Seepage	1.00 1.00	Very limited Slope Large stones content Seepage Gravel content	1.00 0.99 0.52 0.01
82: Calaveras-----	85	Very limited Slope Seepage, bottom layer Large stones content	1.00 1.00 0.02	Very limited Slope Seepage	1.00 1.00	Very limited Slope Gravel content Seepage Large stones content	1.00 0.71 0.52 0.02
83: Calaveras-----	60	Very limited Slope Seepage, bottom layer Large stones content	1.00 1.00 0.19	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Large stones content Gravel content	1.00 0.52 0.19 0.05

Table 11B.-Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
83: Rubble land-----	20	Not rated		Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Large stones	1.00 1.00 1.00
85: Redondo-----	85	Very limited Slope Seepage, bottom layer	1.00 1.00	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Gravel content	1.00 0.52 0.14
86: Redondo-----	85	Very limited Slope Seepage, bottom layer Large stones content	1.00 1.00 0.93	Very limited Slope Seepage	1.00 1.00	Very limited Slope Large stones content Seepage Gravel content	1.00 0.93 0.52 0.07
87: Redondo-----	50	Very limited Slope Seepage, bottom layer	1.00 1.00	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Gravel content	1.00 0.52 0.08
Rubble land-----	25	Not rated		Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Large stones	1.00 1.00 1.00
88: Totavi-----	45	Very limited Seepage, bottom layer Too sandy Flooding	1.00 0.50 0.40	Very limited Seepage Flooding	1.00 0.40	Very limited Seepage Too sandy	1.00 0.50

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
88: Jemez-----	30	Very limited Depth to bedrock Slope	1.00 0.16	Very limited Depth to bedrock Slope	1.00 0.16	Very limited Depth to bedrock Slope	1.00 0.16
Rock outcrop-----	15	Not rated		Not rated		Not rated	
91: Zia-----	85	Not limited		Not limited		Somewhat limited Seepage	0.52
92: Galisteo, moderately saline, sodic-----	85	Not limited		Not limited		Very limited Hard to compact	1.00
93: Zia-----	85	Not limited		Not limited		Somewhat limited Seepage	0.52
95: El Rancho-----	85	Not limited		Not limited		Somewhat limited Seepage	0.52
97: El Rancho-----	85	Not limited		Not limited		Not limited	
100: Orejas-----	40	Very limited Slope Depth to bedrock Large stones content Too clayey	1.00 1.00 0.61 0.50	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Large stones content Too clayey Gravel content	1.00 1.00 0.61 0.50 0.01
Rock outcrop-----	40	Not rated		Not rated		Not rated	
101: Blancot-----	55	Not limited		Not limited		Somewhat limited Seepage	0.52
Lybrook-----	25	Not limited		Not limited		Not limited	

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
102: Sparham-----	85	Very limited Flooding Excess sodium Too clayey	1.00 1.00 0.50	Very limited Flooding	1.00	Very limited Sodium content Too clayey	1.00 0.50
104: Cochiti-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content Seepage	1.00 0.87 0.52
Montecito-----	30	Not limited		Not limited		Somewhat limited Seepage	0.52
105: Badland-----	50	Not rated		Very limited Slope Depth to bedrock	1.00 1.00	Not rated	
Menefee-----	30	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00
106: Stumble-----	50	Very limited Too sandy Slope	1.00 1.00	Very limited Slope	1.00	Very limited Too sandy Seepage Slope	1.00 1.00 1.00
Stumble, sandy-----	30	Very limited Too sandy Flooding	1.00 0.40	Somewhat limited Flooding	0.40	Very limited Too sandy Seepage	1.00 1.00
108: Embudo-----	85	Somewhat limited Too sandy Slope	0.50 0.01	Somewhat limited Slope	0.01	Very limited Seepage Too sandy Slope	1.00 0.50 0.01

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
109: Embudo-----	50	Somewhat limited Too sandy	0.50	Not limited		Very limited Seepage Too sandy	1.00 0.50
Tijeras-----	35	Not limited		Not limited		Somewhat limited Seepage Gravel content	0.52 0.14
110: Rock outcrop-----	45	Not rated		Not rated		Not rated	
Saido-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
111: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Zia-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Seepage	1.00 0.52
112: Tijeras-----	85	Not limited		Not limited		Somewhat limited Seepage Gravel content	0.52 0.01
114: San Mateo-----	40	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Not limited	
Zia-----	40	Not limited		Not limited		Somewhat limited Seepage	0.52
120: Pinavetes-----	85	Very limited Too sandy	1.00	Not limited		Very limited Too sandy Seepage	1.00 1.00
124: Rock outcrop-----	90	Not rated		Not rated		Not rated	

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
129: Menefee-----	85	Very limited Depth to bedrock Slope Too clayey	1.00 1.00 0.50	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope Too clayey	1.00 1.00 0.50
130: Pinavetes-----	45	Somewhat limited Too sandy	0.50	Not limited		Very limited Seepage Too sandy	1.00 0.50
Galisteo, moderately saline, sodic-----	40	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Very limited Hard to compact	1.00
142: Grieta-----	85	Not limited		Not limited		Not limited	
143: Clovis-----	85	Not limited		Not limited		Not limited	
145: Grieta-----	55	Not limited		Not limited		Somewhat limited Seepage	0.52
Sheppard-----	40	Somewhat limited Too sandy	0.50	Not limited		Very limited Seepage Too sandy	1.00 0.50
146: Sedmar-----	85	Very limited Depth to bedrock Seepage, bottom layer Too sandy Slope	1.00 1.00 0.50 0.01	Very limited Depth to bedrock Slope	1.00 0.01	Very limited Depth to bedrock Seepage Too sandy Slope	1.00 1.00 0.50 0.01
150: Doakum-----	55	Not limited		Not limited		Not limited	
Betonnies-----	35	Not limited		Not limited		Somewhat limited Seepage	0.52

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
162: Hackroy-----	45	Very limited Depth to bedrock Too clayey	1.00 1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Too clayey Hard to compact	1.00 1.00 1.00
Nyjack-----	40	Very limited Depth to bedrock	1.00	Not limited		Very limited Depth to bedrock Seepage	1.00 0.52
163: Jemez-----	85	Very limited Depth to bedrock Slope	1.00 0.01	Very limited Depth to bedrock Slope	1.00 0.01	Very limited Depth to bedrock Slope	1.00 0.01
170: San Mateo-----	85	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Not limited	
180: Cuncelor-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Seepage	1.00 0.52
Eslendo-----	30	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope	1.00 1.00
Mespun-----	25	Very limited Slope Too sandy	1.00 0.50	Very limited Slope	1.00	Very limited Seepage Slope Too sandy	1.00 1.00 0.50
183: Sheppard-----	85	Somewhat limited Slope Too sandy	0.63 0.50	Somewhat limited Slope	0.63	Very limited Seepage Slope Too sandy	1.00 0.63 0.50
185: Frijoles-----	90	Not limited		Not limited		Very limited Seepage Gravel content	1.00 1.00

Table 11B.-Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
190: Zia-----	35	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Somewhat limited Slope Seepage	0.84 0.52
Skyvillage-----	25	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Seepage	1.00 1.00 0.52
Rock outcrop-----	15	Not rated		Not rated		Not rated	
191: Sheppard-----	85	Somewhat limited Too sandy	0.50	Not limited		Very limited Seepage Too sandy	1.00 0.50
200: Sedillo-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content Seepage	1.00 0.91 0.52
201: Rock outcrop-----	55	Not rated		Not rated		Not rated	
Sedgran-----	35	Very limited Slope Depth to bedrock Too sandy	1.00 1.00 0.50	Very limited Slope	1.00	Very limited Depth to bedrock Slope Seepage Gravel content Too sandy	1.00 1.00 1.00 0.94 0.50
206: Pinitos-----	85	Not limited		Not limited		Not limited	
207: Penistaja-----	60	Not limited		Not limited		Somewhat limited Seepage	0.52
Zia-----	25	Not limited		Not limited		Somewhat limited Seepage	0.52

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
208: Sedillo-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content Seepage	1.00 1.00 0.52
210: Ildefonso-----	85	Very limited Slope Large stones content	1.00 0.97	Very limited Slope	1.00	Very limited Slope Large stones content Gravel content	1.00 0.97 0.01
211: Zia-----	45	Not limited		Not limited		Somewhat limited Seepage	0.52
Clovis-----	30	Not limited		Not limited		Not limited	
213: Pinavetes-----	55	Very limited Slope Too sandy	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too sandy Seepage	1.00 1.00 1.00
Rock outcrop-----	30	Not rated		Not rated		Not rated	
215: Ess-----	60	Very limited Slope Large stones content	1.00 0.14	Very limited Slope	1.00	Very limited Slope Gravel content Large stones content	1.00 0.36 0.14
Rock outcrop-----	30	Not rated		Not rated		Not rated	
217: Witt-----	85	Not limited		Not limited		Not limited	

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
218: Ildefonso-----	85	Somewhat limited Large stones content Slope	0.70 0.01	Somewhat limited Slope	0.01	Somewhat limited Large stones content Seepage Gravel content Slope	0.70 0.52 0.03 0.01
220: Rock outcrop-----	40	Not rated		Not rated		Not rated	
Vessilla-----	30	Very limited Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Seepage	1.00 1.00 0.52
Menefee-----	20	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00
226: Galisteo, moderately saline, sodic-----	85	Not limited		Not limited		Not limited	
227: Hagerman-----	65	Very limited Depth to bedrock	1.00	Not limited		Very limited Depth to bedrock	1.00
Bond-----	20	Very limited Depth to bedrock	1.00	Not limited		Very limited Depth to bedrock	1.00
228: Winona-----	85	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope Carbonate content Gravel content	1.00 1.00 1.00 0.93

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
102: 230: Skyvillage-----	35	Very limited Depth to bedrock Slope	1.00 0.63	Somewhat limited Slope	0.63	Very limited Depth to bedrock Slope Seepage	1.00 0.63 0.52
Sandoval-----	25	Very limited Depth to bedrock Slope	1.00 0.63	Somewhat limited Slope	0.63	Very limited Depth to bedrock Slope	1.00 0.63
Rock outcrop-----	20	Not rated		Not rated		Not rated	
231: Querencia-----	85	Not limited		Not limited		Not limited	
234: Querencia-----	60	Not limited		Not limited		Not limited	
Zia-----	20	Not limited		Not limited		Somewhat limited Seepage	0.52
235: Sandoval-----	85	Very limited Depth to bedrock Slope	1.00 0.04	Somewhat limited Slope	0.04	Very limited Depth to bedrock Slope	1.00 0.04
236: Sparank, moderately saline, sodic-----	85	Very limited Flooding	1.00	Very limited Flooding	1.00	Not limited	
237: Sparank-----	85	Very limited Flooding	1.00	Very limited Flooding	1.00	Not limited	
240: Penistaja-----	45	Not limited		Not limited		Not limited	
Hagerman-----	35	Very limited Depth to bedrock	1.00	Not limited		Very limited Depth to bedrock	1.00

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
250: Pinavetes-----	90	Somewhat limited Too sandy Slope	0.50 0.16	Somewhat limited Slope	0.16	Very limited Seepage Too sandy Slope	1.00 0.50 0.16
262: Pastura-----	90	Somewhat limited Depth to thin cemented pan	0.50	Not limited		Very limited Depth to cemented pan	1.00
270: Blancot-----	40	Not limited		Not limited		Somewhat limited Seepage	0.52
Councilor-----	30	Not limited		Not limited		Somewhat limited Seepage	0.52
Tsosie-----	25	Not limited		Not limited		Somewhat limited Seepage	0.52
281: Carjo-----	90	Very limited Depth to bedrock Seepage, bottom layer Too clayey	1.00 1.00 1.00	Very limited Seepage Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Too clayey Hard to compact	1.00 1.00 1.00
282: Tocal-----	85	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
283: Mirand-----	45	Very limited Too clayey Slope	1.00 1.00	Very limited Slope	1.00	Very limited Too clayey Hard to compact Slope	1.00 1.00 1.00
Alanos-----	30	Very limited Too clayey Slope	1.00 1.00	Very limited Slope	1.00	Very limited Too clayey Slope Gravel content	1.00 1.00 0.92

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
290: Alanos-----	50	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey Gravel content	1.00 1.00 1.00
Rock outcrop-----	30	Not rated		Not rated		Not rated	
300: Waumac-----	50	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.52
Bamac-----	35	Very limited Seepage, bottom layer Too sandy	1.00 0.50	Very limited Seepage	1.00	Very limited Seepage Gravel content Too sandy	1.00 0.90 0.50
301: Vastine-----	45	Very limited Depth to saturated zone Seepage, bottom layer Too sandy Flooding	1.00 1.00 0.50 0.40	Very limited Depth to saturated zone Seepage Flooding	1.00 1.00 0.40	Very limited Seepage Gravel content Depth to saturated zone Too sandy	1.00 0.90 0.86 0.50
Jarola-----	40	Very limited Depth to saturated zone Seepage, bottom layer Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Somewhat limited Depth to saturated zone	0.86
302: Tranquilar-----	50	Very limited Depth to saturated zone Too clayey	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Too clayey Hard to compact Depth to saturated zone	1.00 1.00 0.24

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
302: Jarmillo-----	30	Very limited Seepage, bottom layer Too clayey	1.00 0.50	Very limited Seepage	1.00	Somewhat limited Too clayey	0.50
304: Cosey-----	45	Somewhat limited Too clayey Slope	0.50 0.37	Somewhat limited Slope	0.37	Somewhat limited Too clayey Slope Gravel content	0.50 0.37 0.05
Jarmillo-----	40	Very limited Seepage, bottom layer Slope	1.00 0.37	Very limited Seepage Slope	1.00 0.37	Somewhat limited Seepage Slope	0.52 0.37
307: Flugle-----	60	Not limited		Not limited		Somewhat limited Seepage	0.52
Waumac-----	25	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.52
308: Cajete-----	85	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Somewhat limited Gravel content Seepage	0.69 0.52
311: Cosey-----	35	Somewhat limited Slope Large stones content Too clayey	0.84 0.65 0.50	Somewhat limited Slope	0.84	Somewhat limited Slope Large stones content Too clayey	0.84 0.65 0.50

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
311: Tranquilar-----	30	Very limited Depth to saturated zone Too clayey	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Too clayey Hard to compact Depth to saturated zone	1.00 1.00 0.24
Calaveras-----	25	Very limited Seepage, bottom layer Slope Too sandy Large stones content	1.00 0.84 0.50 0.01	Very limited Seepage Slope	1.00 0.84	Very limited Seepage Slope Too sandy Gravel content Large stones content	1.00 0.84 0.50 0.08 0.01
312: Royosa-----	90	Very limited Seepage, bottom layer Too sandy	1.00 0.50	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 0.50
314: Fragua-----	40	Not limited		Not limited		Somewhat limited Seepage	0.52
Waumac-----	30	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.52
Royosa-----	25	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
317: Elpedro-----	85	Not limited		Not limited		Not limited	

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
319: Bamac-----	60	Very limited Slope Seepage, bottom layer Too sandy	1.00 1.00 0.50	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Gravel content Too sandy	1.00 1.00 0.99 0.50
Rock outcrop-----	25	Not rated		Not rated		Not rated	
320: Sparham-----	85	Very limited Flooding Too clayey Excess sodium	1.00 1.00 1.00	Very limited Flooding	1.00	Very limited Too clayey Sodium content	1.00 1.00
321: Waumac-----	60	Very limited Seepage, bottom layer Slope	1.00 0.01	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage Slope	0.52 0.01
Royosa-----	30	Very limited Seepage, bottom layer Too sandy	1.00 1.00	Very limited Seepage	1.00	Very limited Too sandy Seepage	1.00 1.00
322: Fragua-----	85	Very limited Slope Depth to bedrock Too sandy	1.00 1.00 0.50	Very limited Slope	1.00	Very limited Slope Seepage Depth to bedrock Too sandy	1.00 1.00 0.84 0.50
324: Rock outcrop-----	30	Not rated		Not rated		Not rated	
Atarque-----	25	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
324: Menefee-----	25	Very limited Depth to bedrock Slope Too clayey	1.00 1.00 0.50	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope Too clayey	1.00 1.00 0.50
325: Rock outcrop-----	35	Not rated		Not rated		Not rated	
Espiritu-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.67
Vessilla-----	25	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Seepage Gravel content	1.00 1.00 0.52 0.07
342: Waumac-----	35	Very limited Seepage, bottom layer Slope	1.00 0.84	Very limited Seepage Slope	1.00 0.84	Somewhat limited Slope Seepage	0.84 0.52
Vessilla-----	25	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope Seepage	1.00 1.00 0.52
Rock outcrop-----	20	Not rated		Not rated		Not rated	
345: Espiritu-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Seepage Gravel content	1.00 0.52 0.18

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
345: Bamac-----	35	Very limited Slope Seepage, bottom layer Too sandy	1.00 1.00 0.50	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Gravel content Too sandy	1.00 1.00 0.98 0.50
346: Espiritu, cobbly----	70	Very limited Slope Too sandy Large stones content	1.00 0.50 0.01	Very limited Slope	1.00	Very limited Slope Seepage Gravel content Too sandy Large stones content	1.00 1.00 0.74 0.50 0.01
Bamac-----	20	Very limited Slope Seepage, bottom layer Too sandy	1.00 1.00 0.50	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Gravel content Too sandy	1.00 1.00 0.58 0.50
348: Wauquie-----	60	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content Seepage	1.00 1.00 0.52
Rock outcrop-----	20	Not rated		Not rated		Not rated	
353: Cochiti-----	50	Very limited Slope Too sandy	1.00 0.50	Very limited Slope	1.00	Very limited Slope Seepage Gravel content Too sandy	1.00 1.00 1.00 0.50

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
353: Espiritu-----	45	Very limited Slope Too sandy	1.00 0.50	Very limited Slope	1.00	Very limited Slope Seepage Gravel content Too sandy	1.00 1.00 0.99 0.50
354: Waumac Variant-----	85	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.01	Very limited Depth to bedrock Slope	1.00 0.01	Very limited Depth to bedrock Gravel content Seepage Slope	1.00 1.00 0.52 0.01
358: Deama-----	35	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope Carbonate content Gravel content	1.00 1.00 1.00 0.99
Elpedro-----	25	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
396: Atarque-----	30	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Too clayey	1.00 1.00 0.50
Menefee-----	30	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Too clayey	1.00 1.00 0.50
Rock outcrop-----	25	Not rated		Not rated		Not rated	
397: Rock outcrop-----	30	Not rated		Not rated		Not rated	

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
397: Cucho-----	25	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Gravel content Too clayey	1.00 1.00 0.69 0.50
Vessilla-----	25	Very limited Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Seepage	1.00 1.00 0.52
398: Espiritu-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content Seepage	1.00 0.95 0.52
Cucho-----	35	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Too clayey	1.00 1.00 0.50
399: Cucho-----	45	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Too clayey	1.00 1.00 0.50
Teco-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Hard to compact Slope	1.00 1.00
405: Charo-----	50	Very limited Depth to bedrock Too clayey	1.00 1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Too clayey Hard to compact	1.00 1.00 1.00
Charo, noncobbly----	40	Very limited Depth to bedrock Too clayey	1.00 1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock Too clayey	1.00 1.00

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
409: Santa Fe-----	85	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Gravel content Seepage	1.00 1.00 0.76 0.52
410: Zia-----	85	Not limited		Not limited		Somewhat limited Seepage	0.52
414: Wauquie-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Seepage Slope Gravel content	1.00 1.00 0.42
417: Jocity-----	85	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Not limited	
418: Jocity-----	85	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Seepage	1.00
419: Santa Fe-----	40	Very limited Slope Depth to bedrock Large stones content	1.00 1.00 0.01	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Gravel content Large stones content	1.00 1.00 0.40 0.01

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
419: Wauquie-----	30	Very limited Slope Too sandy Large stones content	1.00 1.00 0.08	Very limited Slope	1.00	Very limited Slope Too sandy Seepage Gravel content Large stones content	1.00 1.00 1.00 1.00 0.08
Rock outcrop-----	20	Not rated		Not rated		Not rated	
420: Pinavetes-----	85	Very limited Too sandy	1.00	Not limited		Very limited Too sandy Seepage	1.00 1.00
421: Gilco, moderately saline, sodic-----	90	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Not limited	
422: Vessilla-----	35	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope Seepage	1.00 1.00 0.52
Menefee-----	30	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00	Very limited Depth to bedrock	1.00
Orlie-----	25	Not limited		Not limited		Not limited	
423: Gilco-----	85	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Not limited	

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
426: Aga, moderately saline, sodic-----	85	Very limited Depth to saturated zone Too sandy Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Too sandy Seepage	1.00 1.00
427: Aga-----	85	Very limited Depth to saturated zone Too sandy Flooding	1.00 0.50 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Seepage Too sandy	1.00 0.50
428: Aga, moderately saline, sodic-----	85	Very limited Depth to saturated zone Too sandy Flooding	1.00 0.50 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Seepage Too sandy	1.00 0.50
430: Trail-----	85	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Very limited Seepage	1.00
431: Trail-----	85	Somewhat limited Too sandy Flooding	0.50 0.40	Somewhat limited Flooding	0.40	Very limited Seepage Too sandy	1.00 0.50
433: Peralta-----	85	Very limited Depth to saturated zone Too sandy Flooding	1.00 0.50 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Somewhat limited Too sandy Depth to saturated zone	0.50 0.47

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
434: Peralta-----	85	Very limited Depth to saturated zone Seepage, bottom layer Too sandy Flooding	1.00 1.00 0.50 0.40	Very limited Depth to saturated zone Seepage Flooding	1.00 1.00 0.40	Very limited Seepage Too sandy Depth to saturated zone	1.00 0.50 0.47
437: Peralta, moderately saline, sodic-----	85	Very limited Depth to saturated zone Excess sodium Too sandy Flooding	1.00 1.00 0.50 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Sodium content Too sandy Depth to saturated zone	1.00 0.50 0.47
500: Rock outcrop-----	40	Not rated		Not rated		Not rated	
Osha-----	30	Very limited Slope Depth to bedrock Seepage, bottom layer Too sandy	1.00 1.00 1.00 0.50	Very limited Slope Seepage Depth to bedrock	1.00 1.00 0.94	Very limited Slope Seepage Gravel content Depth to bedrock Too sandy	1.00 1.00 1.00 0.94 0.50
Rubble land-----	20	Not rated		Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Large stones	1.00 1.00 1.00
503: Cajete-----	65	Very limited Seepage, bottom layer Slope	1.00 1.00	Very limited Seepage Slope	1.00 1.00	Very limited Slope Gravel content Seepage	1.00 0.90 0.52

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
5.3: Cypher-----	25	Very limited Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Gravel content Seepage	1.00 1.00 0.93 0.52
504: Orejas-----	40	Very limited Depth to bedrock Too clayey Slope	1.00 0.50 0.16	Very limited Depth to bedrock Slope	1.00 0.16	Very limited Depth to bedrock Too clayey Slope Gravel content	1.00 0.50 0.16 0.14
Guaje-----	35	Not limited		Not limited		Very limited Gravel content Seepage	1.00 0.52
600: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Cypher-----	35	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Gravel content	1.00 1.00 0.77
601: Laventana-----	85	Very limited Depth to bedrock Slope	1.00 0.04	Somewhat limited Depth to bedrock Slope	0.42 0.04	Somewhat limited Gravel content Depth to bedrock Slope	0.93 0.42 0.04
603: Laventana-----	50	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 0.32	Very limited Slope Gravel content Depth to bedrock	1.00 0.53 0.32
Mirand-----	35	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
604: Cypher-----	55	Very limited Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Gravel content Seepage	1.00 1.00 1.00 0.52
Mirand-----	30	Very limited Slope Too clayey	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 1.00
608: Osha, steep-----	60	Very limited Slope Seepage, bottom layer Too sandy	1.00 1.00 0.50	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Gravel content Too sandy	1.00 1.00 1.00 0.50
Osha-----	30	Very limited Seepage, bottom layer Slope Too sandy	1.00 1.00 0.50	Very limited Seepage Slope	1.00 1.00	Very limited Seepage Gravel content Slope Too sandy	1.00 1.00 1.00 0.50
823: Gilco, unprotected--	85	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Not limited	
827: Aga, unprotected----	85	Very limited Depth to saturated zone Too sandy Flooding	1.00 0.50 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Seepage Too sandy	1.00 0.50

Table 11B.--Landfills--continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
830: Trail, unprotected--	85	Very limited Depth to saturated zone Too sandy Flooding	1.00 0.50 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Seepage Too sandy	1.00 0.50
831: Trail, unprotected--	85	Very limited Depth to saturated zone Too sandy Flooding	1.00 1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Too sandy Seepage	1.00 1.00
835: Peralta, unprotected	85	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Somewhat limited Depth to saturated zone	0.47
842: Peralta, moderately saline, sodic, unprotected-----	85	Very limited Depth to saturated zone Excess sodium Too clayey Flooding	1.00 1.00 0.50 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Sodium content Too clayey Depth to saturated zone	1.00 0.50 0.47
850: Water-----	95	Not rated		Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated		Not rated	

Table 12A.--Source of gravel and sand

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
1: Silver-----	55	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Clovis-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
2: Clovis-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Prieta-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Silver-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
3: Montecito-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Orejas-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
4: Montecito-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Montecito, bouldery-	35	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
10: Trail-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.03 0.06
11: Trail-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.03 0.10

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
13: Sandoval-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Querencia-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
15: Camino-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Sandoval-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
16: Rock outcrop-----	50	Not rated		Not rated	
Prieta-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
17: Vessilla-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.03
Menefee-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
18: Sparham-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
20: Gilco-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
21: Rock outcrop-----	60	Not rated		Not rated	
Hackroy-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
22: Aga-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.42

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
23: Hickman-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
24: Orlie-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Sparham-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
25: Gilco-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.01
26: Orlie-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
27: Aga-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.30 0.79
29: Trail-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.03 0.10
31: Riverwash-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.84 0.89
33: Pits-----	100	Not rated		Not rated	
34: Ildefonso-----	55	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Witt-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
41: Dune land-----	100	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.93 0.93
47: Cascajo-----	85	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
51: Sparham-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
52: Totavi-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.10 0.10
53: Witt-----	55	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Harvey-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
54: Harvey-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Cascajo-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.57 0.57
55: La Fonda-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
56: Ildefonso-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
57: Badland-----	90	Not rated		Not rated	
58: Deama-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Elpedro-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
59: Harvey-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Ildefonso-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
59: La Fonda-----	15	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
63: Placitas-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.03 0.03
64: Skyvillage-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.03
Ildefonso-----	35	Poor Thickest layer Bottom layer	0.00 0.00	Fair Bottom layer Thickest layer	0.03 0.03
65: Ildefonso-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.04 0.04
Harvey-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.03
66: Zia-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.03 0.03
67: Sandoval-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Poley-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
68: Penistaja-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Querencia-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
71: Palon-----	85	Poor Thickest layer Bottom layer	0.00 0.00	Fair Bottom layer Thickest layer	0.03 0.03
72: Palon-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.03

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
74: Origo-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.03 0.03
Pavo-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.03 0.03
75: Origo-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
82: Calaveras-----	85	Fair Bottom layer Thickest layer	 0.00 0.25	Fair Bottom layer Thickest layer	 0.00 0.03
83: Calaveras-----	60	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Rubble land-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
85: Redondo-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.07 0.07
86: Redondo-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
87: Redondo-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.07 0.07
Rubble land-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
88: Totavi-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.04 0.10
Jemez-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Rock outcrop-----	15	Not rated		Not rated	

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
91: Zia-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.03
92: Galisteo, moderately saline, sodic-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
93: Zia-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.03 0.10
95: El Rancho-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
97: El Rancho-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
100: Orejas-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Rock outcrop-----	40	Not rated		Not rated	
101: Blancot-----	55	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.03 0.03
Lybrook-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
102: Sparham-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
104: Cochiti-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
Montecito-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.03 0.03
105: Badland-----	50	Not rated		Not rated	

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
105: Menefee-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
106: Stumble-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.10 0.58
Stumble, sandy-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.10 0.47
108: Embudo-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.10
109: Embudo-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.06 0.12
Tijeras-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.06
110: Rock outcrop-----	45	Not rated		Not rated	
Saido-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
111: Rock outcrop-----	50	Not rated		Not rated	
Zia-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.03
112: Tijeras-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.03
114: San Mateo-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.03
Zia-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
120: Pinavetes-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.49 0.79

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
124: Rock outcrop-----	90	Not rated		Not rated	
129: Menefee-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
130: Pinavetes-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.10 0.10
Galisteo, moderately saline, sodic-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
142: Grieta-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.10
143: Clovis-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
145: Grieta-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.06 0.06
Sheppard-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.06 0.06
146: Sedmar-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.10
150: Doakum-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Betonnies-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.03 0.03
162: Hackroy-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Nyjack-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.03 0.03

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
163: Jemez-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
170: San Mateo-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
180: Cuncelor-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.03
Eslando-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Mespun-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.02 0.07
183: Sheppard-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.06 0.06
185: Frijoles-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.04 0.04
190: Zia-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.03 0.03
Skyvillage-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Rock outcrop-----	15	Not rated		Not rated	
191: Sheppard-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.06 0.06
200: Sedillo-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.06
201: Rock outcrop-----	55	Not rated		Not rated	
Sedgran-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.12

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
206: Pinitos-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
207: Penistaja-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Zia-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
208: Sedillo-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.03
210: Ildefonso-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
211: Zia-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.03 0.03
Clovis-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.01
213: Pinavetes-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.79 0.79
Rock outcrop-----	30	Not rated		Not rated	
215: Ess-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	30	Not rated		Not rated	
217: Witt-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
218: Ildefonso-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
220: Rock outcrop-----	40	Not rated		Not rated	

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
220: Vessilla-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
Menefee-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
226: Galisteo, moderately saline, sodic-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
227: Hagerman-----	65	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Bond-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
228: Winona-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
230: Skyvillage-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
Sandoval-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
231: Querencia-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
234: Querencia-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Zia-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.03 0.03
235: Sandoval-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
236: Sparank, moderately saline, sodic-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
237: Sparank-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
240: Penistaja-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Hagerman-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
250: Pinavetes-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.06 0.07
262: Pastura-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
270: Blancot-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
Cuncelor-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.04
Tsosie-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
281: Carjo-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
282: Tocal-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
283: Mirand-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
283: Alanos-----	30	Fair Bottom layer Thickest layer	 0.00 0.50	Poor Bottom layer Thickest layer	 0.00 0.00
290: Alanos-----	50	Fair Thickest layer Bottom layer	 0.00 0.12	Poor Bottom layer Thickest layer	 0.00 0.00
Rock outcrop-----	30	Not rated		Not rated	
300: Waumac-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Bamac-----	35	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.10 0.10
301: Vastine-----	45	Fair Thickest layer Bottom layer	 0.00 0.38	Fair Thickest layer Bottom layer	 0.00 0.10
Jarola-----	40	Fair Thickest layer Bottom layer	 0.00 0.05	Fair Thickest layer Bottom layer	 0.00 0.03
302: Tranquilar-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Jarmillo-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
304: Cosey-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Jarmillo-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
307: Flugle-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.02
Waumac-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.03 0.10

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
308: Cajete-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.79
311: Cosey-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Tranquilar-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Calaveras-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.10
312: Royosa-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.07 0.79
314: Fragua-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.04
Waumac-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.06
Royosa-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.31 0.31
317: Elpedro-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
319: Bamac-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.12 0.12
Rock outcrop-----	25	Not rated		Not rated	
320: Sparham-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
321: Waumac-----	60	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.06

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
321: Royosa-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.31 0.31
322: Fragua-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.06 0.06
324: Rock outcrop-----	30	Not rated		Not rated	
Atarque-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Menefee-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
325: Rock outcrop-----	35	Not rated		Not rated	
Espiritu-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Vessilla-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
342: Waumac-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.03 0.06
Vessilla-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
345: Espiritu-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.04
Bamac-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.10 0.10
346: Espiritu, cobbly----	70	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.10
Bamac-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.10 0.12

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
348: Wauquie-----	60	Fair Bottom layer Thickest layer	0.00 0.25	Fair Thickest layer Bottom layer	0.03 0.10
Rock outcrop-----	20	Not rated		Not rated	
353: Cochiti-----	50	Fair Thickest layer Bottom layer	0.00 0.25	Fair Thickest layer Bottom layer	0.00 0.10
Espiritu-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.10
354: Waumac Variant-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.03
358: Deama-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Elpedro-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	25	Not rated		Not rated	
396: Atarque-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Menefee-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	25	Not rated		Not rated	
397: Rock outcrop-----	30	Not rated		Not rated	
Cucho-----	25	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Vessilla-----	25	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
398: Espiritu-----	45	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.04

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
398: Cucho-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
399: Cucho-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Teco-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
405: Charo-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Charo, noncobbly----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
409: Santa Fe-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
410: Zia-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.03
414: Wauquie-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.04
417: Jocity-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.10
418: Jocity-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.02
419: Santa Fe-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Wauquie-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.03 0.29
Rock outcrop-----	20	Not rated		Not rated	

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
420: Pinavetes-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.10 0.79
421: Gilco, moderately saline, sodic-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.01
422: Vessilla-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.03 0.03
Menefee-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Orlie-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
423: Gilco-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
426: Aga, moderately saline, sodic-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.07 0.79
427: Aga-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.02
428: Aga, moderately saline, sodic-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.07
430: Trail-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.10
431: Trail-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.10
433: Peralta-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.01

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
434: Peralta-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.06 0.10
437: Peralta, moderately saline, sodic-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
500: Rock outcrop-----	40	Not rated		Not rated	
Osha-----	30	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.14 0.14
Rubble land-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
503: Cajete-----	65	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.03 0.05
Cypher-----	25	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.03
504: Orejas-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Guaje-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.03 0.03
600: Rock outcrop-----	50	Not rated		Not rated	
Cypher-----	35	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
601: Laventana-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
603: Laventana-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Mirand-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

Table 12A.--Source of gravel and sand--continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
604: Cypher-----	55	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
Mirand-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
608: Osha, steep-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.06 0.10
Osha-----	30	Fair Thickest layer Bottom layer	 0.25 0.25	Fair Thickest layer Bottom layer	 0.06 0.13
823: Gilco, unprotected--	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
827: Aga, unprotected----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.06
830: Trail, unprotected--	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.02
831: Trail, unprotected--	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.10 0.79
835: Peralta, unprotected	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
842: Peralta, moderately saline, sodic, unprotected-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
850: Water-----	95	Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated	

Table 12B.--Source of reclamation material, roadfill, and topsoil

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1: Silver-----	55	Fair Organic matter content low Too clayey Water erosion	0.02 0.98 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.57
Clovis-----	35	Fair Organic matter content low Carbonate content Water erosion	0.08 0.97 0.99	Fair Shrink-swell	0.99	Good	
2: Clovis-----	35	Fair Organic matter content low Carbonate content Too clayey Water erosion	0.02 0.97 0.98 0.99	Good		Fair Too clayey	0.61
Prieta-----	35	Poor Stone content Droughty Depth to bedrock Organic matter content low Too clayey	0.00 0.00 0.00 0.50 0.98	Poor Depth to bedrock Stone content Shrink-swell	0.00 0.00 0.87	Poor Rock fragments Depth to bedrock Too clayey Slope	0.00 0.00 0.64 0.96
Silver-----	20	Fair Organic matter content low Too clayey Water erosion	0.08 0.98 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.64

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
3: Montecito-----	60	Fair Organic matter content low Too clayey	0.02 0.98	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.52
Orejas-----	30	Poor Droughty Depth to bedrock Organic matter content low Cobble content Too clayey	0.00 0.00 0.32 0.33 0.98	Poor Depth to bedrock Shrink-swell Cobble content	0.00 0.87 0.92	Poor Rock fragments Depth to bedrock Too clayey	0.00 0.00 0.61
4: Montecito-----	45	Fair Organic matter content low Too clayey Water erosion	0.02 0.98 0.99	Fair Shrink-swell Slope	0.87 0.92	Poor Slope Too clayey Rock fragments	0.00 0.57 0.99
Montecito, bouldery-	35	Fair Organic matter content low Too clayey Water erosion	0.50 0.98 0.99	Poor Low strength Slope Shrink-swell	0.00 0.92 0.98	Poor Slope Too clayey Rock fragments	0.00 0.64 0.95
10: Trail-----	85	Poor Too alkaline Organic matter content low Droughty Water erosion	0.00 0.50 0.79 0.99	Good		Good	
11: Trail-----	85	Poor Too alkaline Too sandy Organic matter content low	0.00 0.14 0.50	Good		Fair Too sandy	0.14

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
13: Sandoval-----	65	Poor Depth to bedrock Droughty Organic matter content low Too clayey	0.00 0.00 0.02 0.98	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.87	Poor Depth to bedrock Too clayey	0.00 0.52
Querencia-----	20	Fair Organic matter content low Water erosion	0.05 0.99	Fair Shrink-swell	0.87	Good	
15: Camino-----	40	Poor Too clayey Organic matter content low Water erosion	0.00 0.02 0.99	Poor Low strength Shrink-swell Depth to bedrock	0.00 0.12 0.68	Poor Too clayey	0.00
Sandoval-----	35	Poor Depth to bedrock Too alkaline Droughty Sodium content Organic matter content low Too clayey	0.00 0.00 0.02 0.10 0.50 0.98	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.87	Poor Depth to bedrock Sodium content Too clayey	0.00 0.10 0.64
16: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Prieta-----	30	Poor Stone content Droughty Depth to bedrock Organic matter content low Too clayey	0.00 0.00 0.00 0.50 0.98	Poor Depth to bedrock Stone content Shrink-swell	0.00 0.02 0.87	Poor Rock fragments Depth to bedrock Too clayey Slope	0.00 0.00 0.64 0.96

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17: Vessilla-----	35	Poor Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.12	Poor Depth to bedrock	0.00	Poor Depth to bedrock Slope	0.00 0.96
Menefee-----	25	Poor Droughty Depth to bedrock Organic matter content low Too clayey	0.00 0.00 0.50 0.98	Poor Depth to bedrock	0.00	Poor Depth to bedrock Too clayey Slope	0.00 0.64 0.96
Rock outcrop-----	20	Not rated		Not rated		Not rated	
18: Sparham-----	85	Fair Too clayey Organic matter content low Sodium content Salinity Water erosion	0.08 0.24 0.60 0.97 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey Sodium content	0.06 0.60
20: Gilco-----	85	Fair Organic matter content low Water erosion	0.08 0.99	Good		Fair Rock fragments	0.98
21: Rock outcrop-----	60	Not rated		Not rated		Not rated	
Hackroy-----	25	Poor Too clayey Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.00 0.08	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock	0.00 0.00

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
22: Aga-----	85	Fair Organic matter content low Water erosion	0.08 0.99	Good		Good	
23: Hickman-----	85	Fair Organic matter content low Too clayey	0.50 0.98	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.64
24: Orlie-----	45	Fair Organic matter content low Too clayey	0.08 0.98	Fair Shrink-swell	0.87	Fair Too clayey Rock fragments	0.72 0.99
Sparham-----	35	Poor Too clayey Sodium content Organic matter content low Salinity	0.00 0.00 0.50 0.88	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey Sodium content Salinity	0.00 0.00 0.00
25: Gilco-----	85	Fair Organic matter content low Water erosion	0.32 0.99	Good		Good	
26: Orlie-----	85	Fair Organic matter content low Too clayey Water erosion	0.18 0.98 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.64

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27: Aga-----	85	Poor Too sandy Organic matter content low Droughty Water erosion	 0.00 0.08 0.81 0.99	Good		Poor Too sandy	 0.00
29: Trail-----	85	Poor Wind erosion Too alkaline Organic matter content low Droughty	 0.00 0.00 0.08 0.35	Good		Good	
31: Riverwash-----	90	Poor Too sandy Droughty Organic matter content low	 0.00 0.00 0.12	Good		Poor Too sandy Rock fragments	 0.00 0.32
33: Pits-----	100	Not rated		Not rated		Not rated	
34: Ildefonso-----	55	Fair Cobble content Organic matter content low Droughty Carbonate content	 0.08 0.08 0.83 0.97	Poor Cobble content	0.00	Poor Hard to reclaim (rock fragments) Rock fragments Carbonate content	 0.00 0.00 0.98
Witt-----	30	Fair Organic matter content low Water erosion	 0.08 0.37	Fair Shrink-swell	0.87	Good	

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
41: Dune land-----	100	Poor Too sandy Wind erosion Droughty Organic matter content low	0.00 0.00 0.00 0.00	Good		Poor Too sandy Slope	0.00 0.84
47: Cascajo-----	85	Poor Droughty Organic matter content low Too sandy Cobble content	0.00 0.00 0.01 0.94	Fair Slope Cobble content	0.32 0.94	Poor Hard to reclaim (rock fragments) Rock fragments Slope Too sandy	0.00 0.00 0.00 0.01
51: Sparham-----	85	Poor Too clayey Organic matter content low Salinity	0.00 0.08 0.88	Poor Wetness depth Low strength Shrink-swell	0.00 0.00 0.66	Poor Too clayey Wetness depth Sodium content Salinity	0.00 0.00 0.00 0.00
52: Totavi-----	85	Poor Wind erosion Too sandy Organic matter content low Droughty	0.00 0.01 0.08 0.35	Good		Fair Too sandy	0.01
53: Witt-----	55	Fair Organic matter content low Water erosion	0.08 0.90	Fair Shrink-swell	0.87	Good	

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
53: Harvey-----	30	Fair Organic matter content low Carbonate content Too clayey Water erosion	0.68 0.97 0.98 0.99	Poor Low strength Shrink-swell	0.00 0.99	Fair Too clayey	0.67
54: Harvey-----	45	Fair Organic matter content low Carbonate content	0.05 0.97	Fair Shrink-swell	0.89	Fair Slope	0.84
Cascajo-----	40	Poor Too sandy Droughty Organic matter content low Carbonate content	0.00 0.00 0.02 0.97	Good		Poor Too sandy Rock fragments Hard to reclaim (rock fragments) Slope Carbonate content	0.00 0.00 0.00 0.84 0.99
55: La Fonda-----	85	Fair Organic matter content low Water erosion	0.08 0.99	Fair Shrink-swell	0.87	Good	
56: Ildefonso-----	85	Fair Organic matter content low Cobble content Carbonate content Droughty Stone content	0.08 0.52 0.97 0.99 0.99	Poor Slope Cobble content Shrink-swell	0.00 0.02 0.87	Poor Slope Hard to reclaim (rock fragments) Rock fragments Carbonate content	0.00 0.00 0.00 0.99
57: Badland-----	90	Not rated		Not rated		Not rated	

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
58: Deama-----	45	Poor Droughty Carbonate content Depth to bedrock Stone content	0.00 0.00 0.00 0.05	Poor Depth to bedrock Slope Shrink-swell	0.00 0.08 0.87	Poor Slope Depth to bedrock Rock fragments Carbonate content	0.00 0.00 0.00 0.08
Elpedro-----	35	Poor Organic matter content low Water erosion Too clayey	0.00 0.90 0.98	Fair Shrink-swell	0.98	Fair Too clayey Slope	0.52 0.96
59: Harvey-----	35	Fair Organic matter content low Carbonate content Too clayey Water erosion	0.08 0.97 0.98 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey No carbonate limitation	0.55 0.99
Ildefonso-----	35	Poor Droughty Organic matter content low Cobble content Carbonate content	0.00 0.02 0.44 0.97	Fair Cobble content	0.29	Poor Hard to reclaim (rock fragments) Rock fragments Slope	0.00 0.00 0.63
La Fonda-----	15	Fair Organic matter content low Water erosion	0.08 0.99	Fair Shrink-swell	0.87	Good	
63: Placitas-----	85	Poor Droughty Organic matter content low Depth to bedrock Carbonate content	0.00 0.08 0.29 0.80	Poor Depth to bedrock Slope	0.00 0.02	Poor Rock fragments Slope Depth to bedrock Carbonate content	0.00 0.00 0.29 0.99

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64: Skyvillage-----	40	Poor Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.50	Poor Depth to bedrock Slope	0.00 0.92	Poor Depth to bedrock Slope	0.00 0.00
Ildefonso-----	35	Fair Organic matter content low Droughty Carbonate content	0.08 0.12 0.97	Fair Slope	0.02	Poor Rock fragments Hard to reclaim (rock fragments) Slope	0.00 0.00 0.00
65: Ildefonso-----	50	Fair Droughty Organic matter content low Carbonate content	0.09 0.50 0.97	Fair Slope	0.08	Poor Rock fragments Hard to reclaim (rock fragments) Slope	0.00 0.00 0.00
Harvey-----	30	Fair Organic matter content low Carbonate content Water erosion	0.08 0.97 0.99	Fair		Fair Slope Carbonate content	0.16 0.99
66: Zia-----	85	Fair Organic matter content low	0.08	Good		Good	
67: Sandoval-----	40	Poor Droughty Depth to bedrock Too alkaline Organic matter content low Too clayey Water erosion	0.00 0.00 0.00 0.50 0.98 0.99	Poor Depth to bedrock Low strength Shrink-swell Slope	0.00 0.00 0.87 0.92	Poor Depth to bedrock Slope Too clayey	0.00 0.00 0.64

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
66: Poley-----	35	Fair Organic matter content low Too clayey	0.02 0.98	Fair Shrink-swell	0.99	Poor Hard to reclaim (rock fragments) Slope Too clayey Rock fragments	0.00 0.00 0.55 0.98
68: Penistaja-----	45	Poor Wind erosion Organic matter content low	0.00 0.02	Fair Shrink-swell	0.87	Good	
Querencia-----	35	Fair Organic matter content low	0.50	Fair Shrink-swell	0.99	Good	
71: Palon-----	85	Poor Droughty Organic matter content low Cobble content	0.00 0.08 0.98	Poor Slope Cobble content	0.00 0.39	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
72: Palon-----	85	Poor Stone content Droughty Organic matter content low Cobble content Too acid	0.00 0.02 0.50 0.52 0.74	Poor Slope Stone content Cobble content	0.00 0.00 0.00	Poor Slope Rock fragments Hard to reclaim (rock fragments)	0.00 0.00 0.00
74: Origo-----	50	Poor Droughty Organic matter content low Too acid Cobble content Stone content	0.00 0.08 0.50 0.73 0.99	Poor Slope Cobble content	0.00 0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
74: Pavo-----	25	Fair Organic matter content low Too acid Water erosion	 0.50 0.99 0.99	Good		Fair Slope	0.16
75: Origo-----	85	Fair Too acid Droughty Organic matter content low Cobble content Stone content	 0.16 0.18 0.18 0.37 0.54	Poor Slope Cobble content Stone content	 0.00 0.00 0.56	Poor Slope Hard to reclaim (rock fragments) Rock fragments	 0.00 0.00 0.00
82: Calaveras-----	85	Fair Droughty Organic matter content low Water erosion Cobble content	 0.06 0.18 0.99 0.99	Poor Slope Cobble content	 0.00 0.99	Poor Slope Hard to reclaim (rock fragments) Rock fragments	 0.00 0.00 0.00
83: Calaveras-----	60	Fair Organic matter content low Droughty Cobble content Water erosion	 0.02 0.07 0.88 0.99	Poor Slope Cobble content	 0.00 0.61	Poor Slope Hard to reclaim (rock fragments) Rock fragments	 0.00 0.00 0.00
Rubble land-----	20	Not rated		Poor Slope Stone content Cobble content	 0.00 0.00 0.13	Not rated	

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
85: Redondo-----	85	Fair Organic matter content low Droughty Too acid	0.05 0.39 0.84	Poor Slope	0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
86: Redondo-----	85	Poor Droughty Organic matter content low Cobble content Too acid	0.00 0.05 0.14 0.84	Poor Slope Cobble content	0.00 0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
87: Redondo-----	50	Fair Droughty Organic matter content low Too acid	0.05 0.50 0.84	Poor Slope Cobble content	0.00 0.66	Poor Hard to reclaim (rock fragments) Rock fragments Slope	0.00 0.00 0.00
Rubble land-----	25	Not rated		Poor Slope Stone content Cobble content	0.00 0.00 0.50	Not rated	
88: Totavi-----	45	Fair Too sandy Organic matter content low Droughty	0.01 0.08 0.71	Good		Fair Too sandy	0.01
Jemez-----	30	Fair Organic matter content low Depth to bedrock Droughty Water erosion	0.02 0.29 0.63 0.99	Poor Depth to bedrock Shrink-swell	0.00 0.87	Fair Depth to bedrock Slope	0.29 0.84

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
88: Rock outcrop-----	15	Not rated		Not rated		Not rated	
91: Zia-----	85	Fair Organic matter content low	0.08	Good		Good	
92: Galisteo, moderately saline, sodic-----	85	Poor Too clayey Too alkaline Organic matter content low Sodium content Salinity Water erosion	0.00 0.00 0.12 0.22 0.50 0.99	Poor Low strength Shrink-swell	0.00 0.15	Poor Too clayey Salinity Sodium content	0.00 0.00 0.22
93: Zia-----	85	Poor Wind erosion Organic matter content low	0.00 0.08	Good		Good	
95: El Rancho-----	85	Fair Organic matter content low Water erosion	0.02 0.99	Fair Shrink-swell	0.99	Good	
97: El Rancho-----	85	Fair Organic matter content low	0.08	Fair Shrink-swell	0.87	Good	

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
100: Orejas-----	40	Poor Droughty Depth to bedrock Organic matter content low Stone content Cobble content Too clayey	0.00 0.00 0.32 0.38 0.96 0.98	Poor Depth to bedrock Slope Shrink-swell	0.00 0.00 0.87	Poor Slope Rock fragments Depth to bedrock Too clayey	0.00 0.00 0.00 0.61
Rock outcrop-----	40	Not rated		Not rated		Not rated	
101: Blancot-----	55	Poor Too alkaline Organic matter content low	0.00 0.02	Good		Good	
Lybrook-----	25	Poor Too alkaline Organic matter content low Salinity Sodium content Too clayey Water erosion	0.00 0.02 0.03 0.22 0.98 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Sodium content Too clayey	0.22 0.60
102: Sparham-----	85	Poor Sodium content Organic matter content low Salinity Too clayey Water erosion	0.00 0.08 0.88 0.98 0.99	Poor Low strength Shrink-swell	0.00 0.87	Poor Sodium content Salinity Too clayey	0.00 0.00 0.64
104: Cochiti-----	50	Fair Organic matter content low Droughty Too acid	0.02 0.74 0.99	Fair Slope Shrink-swell	0.92 0.96	Poor Rock fragments Hard to reclaim (rock fragments) Slope	0.00 0.00 0.00

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
104: Montecito-----	30	Fair Organic matter content low Water erosion	0.02 0.99	Good		Good	
105: Badland-----	50	Not rated		Not rated		Not rated	
Menefee-----	30	Poor Droughty Depth to bedrock Organic matter content low Too clayey Water erosion	0.00 0.00 0.50 0.98 0.99	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Depth to bedrock Too clayey	0.00 0.00 0.64
106: Stumble-----	50	Poor Too sandy Droughty Organic matter content low	0.00 0.00 0.02	Poor Slope	0.00	Poor Too sandy Slope Rock fragments	0.00 0.00 0.50
Stumble, sandy-----	30	Poor Too sandy Wind erosion Droughty Organic matter content low	0.00 0.00 0.00 0.08	Good		Poor Too sandy Rock fragments Hard to reclaim (rock fragments)	0.00 0.02 0.97
108: Embudo-----	85	Fair Organic matter content low Droughty	0.02 0.96	Good		Fair Rock fragments	0.98

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
109: Embudo-----	50	Fair Organic matter content low Droughty	0.02 0.16	Good		Fair Rock fragments	0.50
						Hard to reclaim (rock fragments)	0.92
Tijeras-----	35	Fair Organic matter content low Droughty	0.02 0.63	Good		Poor Rock fragments	0.00
						Hard to reclaim (rock fragments)	0.00
110: Rock outcrop-----	45	Not rated		Not rated		Not rated	
Saido-----	40	Fair Organic matter content low Water erosion	0.02 0.90	Fair Slope Shrink-swell	0.08 0.87	Poor Slope Salinity	0.00 0.88
111: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Zia-----	35	Fair Organic matter content low	0.08	Fair Slope	0.92	Poor Slope	0.00
112: Tijeras-----	85	Fair Organic matter content low	0.05	Good		Poor Rock fragments	0.00
						Hard to reclaim (rock fragments)	0.92
114: San Mateo-----	40	Poor Too alkaline Salinity Organic matter content low	0.00 0.03 0.08	Fair Shrink-swell	0.87	Poor Salinity	0.00

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
114: Zia-----	40	Fair Organic matter content low	0.08	Good		Good	
120: Pinavetes-----	85	Poor Too sandy Wind erosion Droughty Too alkaline Organic matter content low	0.00 0.00 0.00 0.00 0.50	Good		Poor Too sandy	0.00
124: Rock outcrop-----	90	Not rated		Not rated		Not rated	
129: Menefee-----	85	Poor Depth to bedrock Droughty Organic matter content low Too clayey	0.00 0.04 0.12 0.98	Poor Depth to bedrock Low strength Slope Shrink-swell	0.00 0.00 0.50 0.87	Poor Depth to bedrock Slope Too clayey	0.00 0.00 0.57
130: Pinavetes-----	45	Poor Wind erosion Too alkaline Too sandy Organic matter content low Droughty	0.00 0.00 0.01 0.08 0.35	Good		Fair Too sandy	0.01
Galisteo, moderately saline, sodic-----	40	Poor Too clayey Sodium content Too alkaline Organic matter content low Salinity	0.00 0.00 0.00 0.08 0.50	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey Sodium content Salinity	0.00 0.00 0.00

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
142: Grieta-----	85	Fair Organic matter content low Carbonate content	0.08 0.97	Fair Shrink-swell	0.97	Fair Carbonate content	0.99
143: Clovis-----	85	Fair Organic matter content low Carbonate content	0.01 0.80	Fair Shrink-swell	0.87	Fair Carbonate content	0.85
145: Grieta-----	55	Poor Wind erosion Organic matter content low	0.00 0.08	Good		Good	
Sheppard-----	40	Poor Wind erosion Too sandy Organic matter content low Droughty	0.00 0.02 0.02 0.94	Good		Fair Too sandy	0.02
146: Sedmar-----	85	Poor Wind erosion Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.00 0.50	Poor Depth to bedrock	0.00	Poor Depth to bedrock	0.00
150: Doakum-----	55	Poor Organic matter content low Too alkaline Water erosion	0.00 0.00 0.99	Fair Shrink-swell	0.87	Fair Salinity	0.50

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
150: Betonnie-----	35	Poor Organic matter content low Too alkaline	0.00 0.00	Good		Good	
162: Hackroy-----	45	Poor Too clayey Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.00 0.08	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock	0.00 0.00
Nyjack-----	40	Fair Organic matter content low Too acid Water erosion Depth to bedrock	0.08 0.99 0.99 0.99	Poor Depth to bedrock	0.00	Fair Rock fragments Depth to bedrock	0.12 0.99
163: Jemez-----	85	Fair Organic matter content low Too clayey Water erosion Depth to bedrock	0.32 0.98 0.99 0.99	Poor Depth to bedrock Shrink-swell	0.00 0.87	Fair Too clayey Depth to bedrock	0.61 0.99
170: San Mateo-----	85	Poor Too alkaline Organic matter content low Too clayey Water erosion	0.00 0.05 0.98 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.60
180: Cuncelor-----	40	Fair Organic matter content low	0.02	Fair Slope	0.82	Poor Slope	0.00

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
180: Eslendo-----	30	Poor Droughty Depth to bedrock Organic matter content low Too clayey	0.00 0.00 0.08 0.98	Poor Depth to bedrock Slope	0.00 0.82	Poor Depth to bedrock Slope Too clayey	0.00 0.00 0.55
Mespun-----	25	Poor Wind erosion Organic matter content low Too sandy Droughty	0.00 0.12 0.38 0.74	Fair Slope	0.82	Poor Slope Too sandy	0.00 0.38
183: Sheppard-----	85	Poor Wind erosion Too sandy Organic matter content low Droughty	0.00 0.02 0.05 0.94	Good		Fair Too sandy Slope	0.02 0.37
185: Frijoles-----	90	Poor Droughty Organic matter content low Water erosion	0.00 0.01 0.37	Good		Poor Hard to reclaim (rock fragments) Rock fragments	0.00 0.00
190: Zia-----	35	Fair Organic matter content low	0.08	Good		Fair Slope	0.16
Skyvillage-----	25	Poor Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.50	Poor Depth to bedrock Slope	0.00 0.08	Poor Depth to bedrock Slope	0.00 0.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
191: Sheppard-----	85	Poor Wind erosion Too sandy Organic matter content low Droughty	0.00 0.02 0.02 0.94	Good		Fair Too sandy	0.02
200: Sedillo-----	85	Poor Droughty Organic matter content low Carbonate content	0.00 0.12 0.80	Good		Poor Hard to reclaim (rock fragments) Rock fragments Slope Carbonate content	0.00 0.00 0.00 0.98
201: Rock outcrop-----	55	Not rated		Not rated		Not rated	
Sedgran-----	35	Poor Droughty Depth to bedrock Too sandy Organic matter content low	0.00 0.00 0.06 0.08	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock Too sandy	0.00 0.00 0.00 0.06
206: Pinitos-----	85	Fair Organic matter content low Too clayey Water erosion	0.02 0.98 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.61
207: Penistaja-----	60	Fair Organic matter content low Water erosion	0.08 0.37	Good		Good	
Zia-----	25	Fair Organic matter content low	0.08	Good		Good	

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
208: Sedillo-----	85	Fair Organic matter content low Droughty Carbonate content	0.08 0.12 0.80	Poor Slope	0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments Carbonate content	0.00 0.00 0.00 0.93
210: Ildefonso-----	85	Poor Stone content Organic matter content low Droughty Carbonate content	0.00 0.08 0.71 0.97	Poor Slope Stone content Shrink-swell	0.00 0.00 0.87	Poor Slope Rock fragments Hard to reclaim (rock fragments) Carbonate content	0.00 0.00 0.00 0.99
211: Zia-----	45	Fair Organic matter content low	0.24	Good		Good	
Clovis-----	30	Fair Organic matter content low Carbonate content	0.08 0.00 0.80	Fair Shrink-swell	0.87	Fair Carbonate content	0.88
213: Pinavetes-----	55	Poor Too sandy Wind erosion Droughty Too alkaline Organic matter content low	0.00 0.00 0.00 0.00 0.08	Poor Slope	0.00	Poor Slope Too sandy	0.00 0.00
Rock outcrop-----	30	Not rated		Not rated		Not rated	

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
215: Ess-----	60	Fair Organic matter content low Droughty Stone content No cobble limitation	0.40 0.64 0.97 0.99	Poor Slope Cobble content Stone content	0.00 0.23 0.94	Poor Rock fragments Hard to reclaim (rock fragments) Slope	0.00 0.00 0.00
Rock outcrop-----	30	Not rated		Not rated		Not rated	
217: Witt-----	85	Fair Organic matter content low Water erosion	0.08 0.37	Good		Good	
218: Ildefonso-----	85	Fair Organic matter content low Droughty Cobble content Carbonate content	0.08 0.17 0.66 0.97	Poor Cobble content	0.00	Poor Hard to reclaim (rock fragments) Rock fragments Carbonate content	0.00 0.00 0.99
220: Rock outcrop-----	40	Not rated		Not rated		Not rated	
Vessilla-----	30	Poor Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.12	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Depth to bedrock	0.00 0.00
Menefee-----	20	Poor Droughty Depth to bedrock Organic matter content low Too clayey	0.00 0.00 0.50 0.98	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Depth to bedrock Too clayey	0.00 0.00 0.64

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
226: Galisteo, moderately saline, sodic-----	85	Poor Sodium content Too alkaline Too clayey Organic matter content low Salinity Water erosion	0.00 0.00 0.08 0.08 0.50 0.99	Poor Low strength Shrink-swell	0.00 0.87	Poor Sodium content Salinity Too clayey	0.00 0.00 0.05
227: Hagerman-----	65	Fair Organic matter content low Depth to bedrock Too clayey	0.18 0.84 0.98	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.87	Fair Too clayey Depth to bedrock	0.58 0.84
Bond-----	20	Poor Wind erosion Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.00 0.82	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.78 0.87	Poor Depth to bedrock	0.00
228: Winona-----	85	Poor Droughty Carbonate content Depth to bedrock Organic matter content low	0.00 0.00 0.00 0.50	Poor Depth to bedrock Shrink-swell Slope	0.00 0.87 0.92	Poor Rock fragments Depth to bedrock Slope Carbonate content Salinity	0.00 0.00 0.00 0.00 0.50
230: Skyvillage-----	35	Poor Droughty Depth to bedrock	0.00 0.00	Poor Depth to bedrock	0.00	Poor Depth to bedrock Slope	0.00 0.37

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
230: Sandoval-----	25	Poor Droughty Depth to bedrock Too alkaline Organic matter content low Too clayey	0.00 0.00 0.00 0.50 0.98	Poor Depth to bedrock	0.00	Poor Depth to bedrock Slope Too clayey	0.00 0.37 0.64
Rock outcrop-----	20	Not rated		Not rated		Not rated	
231: Querencia-----	85	Fair Organic matter content low Water erosion	0.08 0.99	Fair Shrink-swell	0.87	Good	
234: Querencia-----	60	Fair Organic matter content low Water erosion	0.08 0.99	Good		Good	
Zia-----	20	Fair Organic matter content low	0.08	Good		Good	
235: Sandoval-----	85	Poor Depth to bedrock Too alkaline Sodium content Droughty Organic matter content low Too clayey	0.00 0.00 0.10 0.11 0.50 0.98	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.87	Poor Depth to bedrock Sodium content Too clayey Slope	0.00 0.10 0.64 0.96

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
236: Sparank, moderately saline, sodic-----	85	Poor Sodium content Too alkaline Organic matter content low Salinity Too clayey Water erosion	0.00 0.00 0.50 0.50 0.98 0.99	Poor Low strength Shrink-swell	0.00 0.34	Poor Sodium content Salinity Too clayey	0.00 0.00 0.64
237: Sparank-----	85	Fair Organic matter content low Sodium content Too clayey Water erosion	0.50 0.60 0.98 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Sodium content Too clayey	0.60 0.64
240: Penistaja-----	45	Fair Organic matter content low	0.08	Good		Good	
Hagerman-----	35	Fair Organic matter content low Depth to bedrock Droughty Too clayey	0.02 0.10 0.66 0.98	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.87	Fair Depth to bedrock Too clayey	0.10 0.52
250: Pinavetes-----	90	Poor Wind erosion Too alkaline Organic matter content low Too sandy Droughty	0.00 0.00 0.08 0.38 0.40	Good		Fair Too sandy Slope	0.38 0.84

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
262: Pastura-----	90	Poor Droughty Depth to cemented pan Organic matter content low Water erosion	0.00 0.00 0.88 0.99	Poor Depth to cemented pan Shrink-swell	0.00 0.87	Poor Depth to cemented pan Rock fragments	0.00 0.50
270: Blancot-----	40	Fair Organic matter content low Sodium content	0.01 0.40	Good		Fair Sodium content	0.40
Councilor-----	30	Fair Organic matter content low	0.08	Good		Good	
Tsosie-----	25	Poor Too alkaline Organic matter content low Sodium content Too clayey Water erosion	0.00 0.05 0.60 0.98 0.99	Fair		Fair Salinity Sodium content Too clayey	0.50 0.60 0.64
281: Carjo-----	90	Poor Too clayey Depth to bedrock Droughty Water erosion Organic matter content low	0.00 0.16 0.36 0.37 0.50	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.75	Poor Too clayey Depth to bedrock	0.00 0.16
282: Tocal-----	85	Poor Droughty Depth to bedrock Water erosion	0.00 0.00 0.37	Poor Depth to bedrock Shrink-swell	0.00 0.70	Poor Depth to bedrock	0.00

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
283: Mirand-----	45	Poor Too clayey Organic matter content low Too acid	0.00 0.08 0.74	Poor Low strength Shrink-swell Slope	0.00 0.59 0.82	Poor Too clayey Slope	0.00 0.00
Alanos-----	30	Fair Organic matter content low Droughty Too clayey	0.02 0.68 0.98	Fair Slope Shrink-swell Low strength	0.08 0.41 0.78	Poor Rock fragments Slope Hard to reclaim (rock fragments) Too clayey	0.00 0.00 0.08 0.55
290: Alanos-----	50	Poor Too clayey Organic matter content low Droughty Too acid Water erosion	0.00 0.01 0.45 0.84 0.99	Poor Slope Shrink-swell	0.00 0.22	Poor Slope Too clayey Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00 0.00
Rock outcrop-----	30	Not rated		Not rated		Not rated	
300: Waumac-----	50	Poor Wind erosion Organic matter content low	0.00 0.08	Good		Good	
Bamac-----	35	Poor Droughty Too sandy Organic matter content low	0.00 0.01 0.08	Good		Poor Rock fragments Too sandy Hard to reclaim (rock fragments)	0.00 0.01 0.01

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
301: Vastine-----	45	Fair Too sandy Organic matter content low Water erosion Droughty	0.01 0.08 0.90 0.91	Fair Wetness depth	0.53	Poor Rock fragments Hard to reclaim (rock fragments) Too sandy Wetness depth	0.00 0.00 0.01 0.53
Jarola-----	40	Fair Organic matter content low Water erosion Too acid	0.08 0.90 0.99	Fair Wetness depth Shrink-swell	0.53 0.99	Poor Hard to reclaim (rock fragments) Rock fragments Wetness depth	0.00 0.12 0.53
302: Tranquilar-----	50	Poor Too clayey Too acid Organic matter content low Water erosion	0.00 0.16 0.24 0.99	Poor Low strength Shrink-swell Wetness depth	0.00 0.16 0.98	Poor Too clayey Too acid Wetness depth	0.00 0.68 0.98
Jarmillo-----	30	Fair Organic matter content low Too acid Water erosion	0.08 0.99 0.99	Poor Low strength	0.00	Good	
304: Cosey-----	45	Fair Organic matter content low Water erosion Too acid	0.02 0.90 0.99	Fair Shrink-swell	0.97	Poor Hard to reclaim (rock fragments) Rock fragments Slope	0.00 0.00 0.63
Jarmillo-----	40	Fair Organic matter content low Water erosion Too acid	0.08 0.90 0.99	Good		Fair Slope	0.63

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
307: Flugle-----	60	Poor Organic matter content low Too sandy Water erosion	0.00 0.98 0.99	Good		Fair Too sandy	0.98
Waumac-----	25	Poor Wind erosion Organic matter content low	0.00 0.08	Good		Good	
308: Cajete-----	85	Fair Droughty Organic matter content low	0.14 0.82	Good		Poor Rock fragments Hard to reclaim (rock fragments)	0.00 0.00
311: Cosey-----	35	Fair Organic matter content low Cobble content Water erosion Too clayey Droughty	0.02 0.68 0.90 0.98 0.99	Fair Cobble content Shrink-swell	0.55 0.96	Poor Hard to reclaim (rock fragments) Rock fragments Slope Too clayey	0.00 0.00 0.16 0.52
Tranquilar-----	30	Poor Too clayey Too acid Organic matter content low Water erosion	0.00 0.16 0.50 0.90	Poor Low strength Shrink-swell Wetness depth	0.00 0.25 0.98	Poor Too clayey Too acid Wetness depth	0.00 0.68 0.98
Calaveras-----	25	Fair Organic matter content low Droughty Too acid Water erosion Stone content	0.01 0.76 0.84 0.90 0.99	Good		Poor Hard to reclaim (rock fragments) Rock fragments Slope	0.00 0.00 0.16

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
312: Royosa-----	90	Poor Wind erosion Organic matter content low Droughty Too sandy	0.00 0.08 0.13 0.38	Good		Fair Too sandy	0.38
314: Fragua-----	40	Poor Wind erosion Organic matter content low	0.00 0.02	Good		Good	
Waumac-----	30	Poor Wind erosion Organic matter content low	0.00 0.08	Good		Good	
Royosa-----	25	Poor Too sandy Wind erosion Droughty Organic matter content low	0.00 0.00 0.09 0.50	Good		Poor Too sandy	0.00
317: Elpedro-----	85	Fair Organic matter content low Too clayey Water erosion	0.02 0.92 0.99	Fair Shrink-swell	0.87	Fair Too clayey	0.55
319: Bamac-----	60	Poor Droughty Organic matter content low Too sandy	0.00 0.01 0.06	Poor Slope	0.00	Poor Slope Rock fragments Hard to reclaim (rock fragments) Too sandy	0.00 0.00 0.00 0.06
Rock outcrop-----	25	Not rated		Not rated		Not rated	

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
320: Sparham-----	85	Poor Too clayey Sodium content Organic matter content low Salinity Water erosion	0.00 0.00 0.08 0.88 0.90	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey Sodium content Salinity	0.00 0.00 0.00
321: Waumac-----	60	Poor Wind erosion Organic matter content low	0.00 0.08	Good		Good	
Royosa-----	30	Poor Too sandy Wind erosion Droughty Organic matter content low	0.00 0.00 0.09 0.50	Good		Poor Too sandy	0.00
322: Fragua-----	85	Fair Too sandy Organic matter content low Droughty	0.02 0.08 0.62	Poor Slope Depth to bedrock	0.00 0.16	Poor Slope Too sandy	0.00 0.02
324: Rock outcrop-----	30	Not rated		Not rated		Not rated	
Atarque-----	25	Poor Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.08	Poor Depth to bedrock Shrink-swell	0.00 0.87	Poor Depth to bedrock Slope	0.00 0.00

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
324: Menefee-----	25	Poor Droughty Depth to bedrock Organic matter content low Too clayey	0.00 0.00 0.50 0.98	Poor Depth to bedrock Slope	0.00 0.92	Poor Depth to bedrock Slope Too clayey	0.00 0.00 0.64
325: Rock outcrop-----	35	Not rated		Not rated		Not rated	
Espiritu-----	25	Fair Organic matter content low Droughty	0.08 0.88	Poor Slope Shrink-swell Cobble content	0.00 0.87 0.90	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
Vessilla-----	25	Poor Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.18	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Depth to bedrock Rock fragments	0.00 0.00 0.00
342: Waumac-----	35	Poor Wind erosion Organic matter content low	0.00 0.08	Good		Fair Slope	0.16
Vessilla-----	25	Poor Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.12	Poor Depth to bedrock Slope	0.00 0.08	Poor Depth to bedrock Slope	0.00 0.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
345: Espiritu-----	50	Poor Organic matter content low Droughty	0.00 0.70	Poor Slope Cobble content Shrink-swell	0.00 0.99 0.99	Poor Slope Rock fragments Hard to reclaim (rock fragments)	0.00 0.00 0.46
Bamac-----	35	Poor Droughty Too sandy Organic matter content low	0.00 0.01 0.02	Poor Slope	0.00	Poor Slope Rock fragments Hard to reclaim (rock fragments) Too sandy	0.00 0.00 0.00 0.01
346: Espiritu, cobbly----	70	Fair Droughty Organic matter content low	0.04 0.08	Poor Slope Cobble content	0.00 0.70	Poor Slope Rock fragments Hard to reclaim (rock fragments)	0.00 0.00 0.00
Bamac-----	20	Poor Droughty Too sandy Organic matter content low	0.00 0.06 0.18	Poor Slope	0.00	Poor Slope Rock fragments Hard to reclaim (rock fragments) Too sandy	0.00 0.00 0.00 0.06
348: Wauquie-----	60	Fair Droughty Organic matter content low	0.14 0.18	Poor Slope	0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
353: Cochiti-----	50	Fair Organic matter content low Droughty Too clayey	0.02 0.17 0.50	Poor Slope	0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments Too clayey	0.00 0.00 0.00 0.30
Espiritu-----	45	Poor Droughty Too sandy Organic matter content low	0.00 0.02 0.08	Poor Slope Cobble content	0.00 0.99	Poor Slope Hard to reclaim (rock fragments) Rock fragments Too sandy	0.00 0.00 0.00 0.02
354: Waumac Variant-----	85	Poor Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.08	Poor Depth to bedrock	0.00	Poor Rock fragments Depth to bedrock	0.00 0.00
358: Deama-----	35	Poor Droughty Carbonate content Depth to bedrock Organic matter content low	0.00 0.00 0.00 0.82	Poor Depth to bedrock Slope Shrink-swell	0.00 0.00 0.87	Poor Rock fragments Depth to bedrock Carbonate content Slope	0.00 0.00 0.00 0.00
Elpedro-----	25	Fair Organic matter content low Too clayey Water erosion	0.18 0.92 0.99	Poor Low strength Slope Shrink-swell	0.00 0.00 0.87	Poor Slope Too clayey	0.00 0.55
Rock outcrop-----	25	Not rated		Not rated		Not rated	

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
396: Atarque-----	30	Poor Depth to bedrock Droughty Organic matter content low	0.00 0.00 0.02	Poor Depth to bedrock Slope Low strength Shrink-swell	0.00 0.00 0.78 0.87	Poor Slope Depth to bedrock	0.00 0.00
Menefee-----	30	Poor Droughty Depth to bedrock Organic matter content low Too clayey	0.00 0.00 0.12 0.98	Poor Depth to bedrock Slope Low strength Shrink-swell	0.00 0.00 0.00 0.87	Poor Slope Depth to bedrock Too clayey	0.00 0.00 0.57
Rock outcrop-----	25	Not rated		Not rated		Not rated	
397: Rock outcrop-----	30	Not rated		Not rated		Not rated	
Cucho-----	25	Fair Organic matter content low Droughty Too clayey Depth to bedrock	0.01 0.49 0.92 0.97	Poor Depth to bedrock Slope Shrink-swell	0.00 0.00 0.87	Poor Slope Rock fragments Too clayey Depth to bedrock	0.00 0.00 0.48 0.97
Vessilla-----	25	Poor Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.18	Poor Depth to bedrock Slope	0.00 0.00	Poor Depth to bedrock Slope Rock fragments	0.00 0.00 0.50
398: Espiritu-----	45	Poor Droughty Organic matter content low	0.00 0.02	Poor Slope	0.00	Poor Hard to reclaim (rock fragments) Rock fragments Slope	0.00 0.00 0.00

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
398: Cucho-----	35	Fair Organic matter content low Too clayey Depth to bedrock Water erosion	0.08 0.92 0.97 0.99	Poor Depth to bedrock Low strength Slope Shrink-swell	0.00 0.00 0.00 0.87	Poor Slope Too clayey Depth to bedrock	0.00 0.52 0.97
399: Cucho-----	45	Fair Organic matter content low Too clayey Depth to bedrock	0.08 0.92 0.97	Poor Depth to bedrock Low strength Slope Shrink-swell	0.00 0.00 0.00 0.87	Poor Slope Too clayey Depth to bedrock	0.00 0.52 0.97
Teco-----	35	Poor Too clayey Organic matter content low	0.00 0.18	Poor Low strength Slope Shrink-swell	0.00 0.02 0.48	Poor Too clayey Slope	0.00 0.00
405: Charo-----	50	Poor Too clayey Organic matter content low Droughty Depth to bedrock	0.00 0.02 0.27 0.35	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock	0.00 0.35
Charo, noncobbly----	40	Poor Too clayey Organic matter content low Depth to bedrock Water erosion	0.00 0.08 0.99 0.99	Poor Depth to bedrock Low strength Shrink-swell	0.00 0.00 0.87	Poor Too clayey Depth to bedrock Rock fragments	0.00 0.99 0.99
409: Santa Fe-----	85	Poor Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.50	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.00

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
410: Zia-----	85	Fair Organic matter content low Water erosion	0.08 0.99	Good		Good	
414: Wauquie-----	85	Fair Organic matter content low Droughty	0.08 0.09	Fair Slope Cobble content	0.92 0.99	Poor Rock fragments Slope Hard to reclaim (rock fragments)	0.00 0.00 0.05
417: Jocity-----	85	Poor Too alkaline Organic matter content low Too clayey Water erosion	0.00 0.08 0.98 0.99	Fair Shrink-swell	0.95	Fair Too clayey	0.64
418: Jocity-----	85	Fair Organic matter content low Too clayey	0.08 0.98	Good		Fair Too clayey	0.61
419: Santa Fe-----	40	Poor Droughty Depth to bedrock	0.00 0.00	Poor Depth to bedrock Slope Shrink-swell	0.00 0.00 0.87	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.00
Wauquie-----	30	Poor Droughty Organic matter content low	0.00 0.02	Poor Slope Cobble content	0.00 0.50	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
420: Pinavetes-----	85	Poor Too sandy Wind erosion Droughty Too alkaline Organic matter content low	0.00 0.00 0.00 0.00 0.08	Good		Poor Too sandy	0.00
421: Gilco, moderately saline, sodic-----	90	Poor Sodium content Organic matter content low Water erosion Salinity	0.00 0.08 0.37 0.50	Good		Poor Sodium content Salinity	0.00 0.00
422: Vessilla-----	35	Poor Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.12	Poor Depth to bedrock Slope	0.00 0.82	Poor Depth to bedrock Slope	0.00 0.00
Menefee-----	30	Poor Droughty Depth to bedrock Organic matter content low Too clayey	0.00 0.00 0.50 0.98	Poor Depth to bedrock	0.00	Poor Depth to bedrock Too clayey	0.00 0.64
Orlie-----	25	Fair Organic matter content low Too clayey Water erosion	0.08 0.98 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.55
423: Gilco-----	85	Fair Organic matter content low Water erosion	0.08 0.99	Good		Fair Rock fragments	0.98

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
426: Aga, moderately saline, sodic-----	85	Poor Sodium content Organic matter content low Too sandy Salinity Droughty Water erosion	 0.00 0.02 0.38 0.50 0.81 0.99	Good		Poor Sodium content Salinity Too sandy	 0.00 0.00 0.38
427: Aga-----	85	Fair Organic matter content low Water erosion	 0.02 0.99	Good		Good	
428: Aga, moderately saline, sodic-----	85	Poor Sodium content Organic matter content low Water erosion Too sandy Salinity Droughty	 0.00 0.02 0.37 0.38 0.50 0.97	Good		Poor Sodium content Salinity Too sandy	 0.00 0.00 0.38
430: Trail-----	85	Poor Too alkaline Too sandy Organic matter content low Droughty Water erosion	 0.00 0.01 0.08 0.48 0.99	Good		Fair Too sandy	 0.01

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
431: Trail-----	85	Poor Wind erosion Too alkaline Organic matter content low Droughty	0.00 0.00 0.08 0.88	Good		Good	
433: Peralta-----	85	Fair Organic matter content low Sodium content Water erosion	0.08 0.40 0.99	Fair Wetness depth	0.89	Fair Sodium content Salinity Wetness depth	0.40 0.50 0.89
434: Peralta-----	85	Fair Too sandy Organic matter content low Water erosion Sodium content	0.01 0.02 0.37 0.40	Fair Wetness depth	0.89	Fair Too sandy Sodium content Salinity Wetness depth	0.01 0.40 0.50 0.89
437: Peralta, moderately saline, sodic-----	85	Poor Sodium content Organic matter content low Salinity Water erosion	0.00 0.08 0.50 0.99	Fair Wetness depth	0.89	Poor Sodium content Salinity Wetness depth	0.00 0.00 0.89
500: Rock outcrop-----	40	Not rated		Not rated		Not rated	
Osha-----	30	Poor Droughty Too sandy Organic matter content low	0.00 0.01 0.08	Poor Slope Depth to bedrock	0.00 0.07	Poor Slope Hard to reclaim (rock fragments) Rock fragments Too sandy	0.00 0.00 0.00 0.00 0.01

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
500: Rubble land-----	20	Not rated		Poor Slope Stone content Cobble content	0.00 0.00 0.00	Not rated	
503: Cajete-----	65	Fair Droughty Organic matter content low	0.04 0.82	Fair Slope	0.68	Poor Rock fragments Slope Hard to reclaim (rock fragments)	0.00 0.00 0.20
Cypher-----	25	Poor Droughty Depth to bedrock Organic matter content low Too acid	0.00 0.00 0.32 0.95	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.00
504: Orejas-----	40	Poor Droughty Depth to bedrock Organic matter content low Too clayey	0.00 0.00 0.12 0.98	Poor Depth to bedrock Shrink-swell	0.00 0.87	Poor Rock fragments Depth to bedrock Too clayey Slope	0.00 0.00 0.57 0.84
Guaje-----	35	Fair Droughty Organic matter content low Carbonate content	0.01 0.05 0.97	Good		Poor Rock fragments Hard to reclaim (rock fragments)	0.00 0.00
600: Rock outcrop-----	50	Not rated		Not rated		Not rated	

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
600: Cypher-----	35	Poor Droughty Depth to bedrock Organic matter content low Too acid	0.00 0.00 0.18 0.95	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.00
601: Laventana-----	85	Fair Organic matter content low Droughty Too acid	0.08 0.28 0.99	Fair Depth to bedrock Shrink-swell	0.58 0.87	Poor Rock fragments Hard to reclaim (rock fragments) Slope	0.00 0.00 0.96
603: Laventana-----	50	Fair Organic matter content low Droughty Too acid	0.02 0.70 0.74	Poor Slope Depth to bedrock Shrink-swell	0.00 0.68 0.87	Poor Slope Rock fragments Hard to reclaim (rock fragments)	0.00 0.00 0.00
Mirand-----	35	Poor Too clayey Organic matter content low	0.00 0.12	Poor Low strength Shrink-swell Slope	0.00 0.12 0.50	Poor Slope Too clayey Rock fragments	0.00 0.00 0.18
604: Cypher-----	55	Poor Droughty Depth to bedrock Organic matter content low Too acid	0.00 0.00 0.02 0.74	Poor Depth to bedrock Slope	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.00

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
604: Mirand-----	30	Poor Too clayey Organic matter content low	0.00 0.12	Poor Slope Shrink-swell Low strength	0.00 0.12 0.78	Poor Slope Too clayey Rock fragments Hard to reclaim (rock fragments)	0.00 0.00 0.32 0.88
608: Osha, steep-----	60	Poor Droughty Organic matter content low Too acid	0.00 0.02 0.99	Poor Slope	0.00	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
Osha-----	30	Poor Droughty Organic matter content low	0.00 0.08	Fair Slope	0.68	Poor Hard to reclaim (dense layer) Hard to reclaim (rock fragments) Rock fragments Slope	0.00 0.00 0.00 0.00
823: Gilco, unprotected--	85	Fair Organic matter content low Water erosion	0.08 0.99	Good		Fair Rock fragments	0.98
827: Aga, unprotected----	85	Fair Organic matter content low Water erosion	0.01 0.99	Good		Good	
830: Trail, unprotected--	85	Poor Too alkaline Organic matter content low Droughty Water erosion	0.00 0.08 0.96 0.99	Good		Good	

Table 12B.--Source of reclamation material, roadfill, and topsoil--continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
831: Trail, unprotected--	85	Poor Wind erosion Too alkaline Too sandy Droughty Organic matter content low	0.00 0.00 0.01 0.03 0.08	Good		Fair Too sandy	0.01
835: Peralta, unprotected	85	Fair Organic matter content low Water erosion	0.08 0.99	Fair Wetness depth Shrink-swell	0.89 0.93	Fair Salinity Wetness depth	0.50 0.89
842: Peralta, moderately saline, sodic, unprotected-----	85	Poor Sodium content Organic matter content low Salinity	0.00 0.08 0.50	Fair Shrink-swell Wetness depth	0.87 0.89	Poor Sodium content Salinity Wetness depth	0.00 0.00 0.89
850: Water-----	95	Not rated		Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated		Not rated	

Table 13.--Ponds and embankments

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
1: Silver-----	55	Somewhat limited Seepage	0.04	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
Clovis-----	35	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.80 0.01	Very limited Depth to water	1.00
2: Clovis-----	35	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.99 0.01	Very limited Depth to water	1.00
Prieta-----	35	Very limited Depth to bedrock	1.00	Very limited Thin layer Large stones content	1.00 0.43	Very limited Depth to water	1.00
Silver-----	20	Somewhat limited Seepage	0.04	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
3: Montecito-----	60	Somewhat limited Seepage	0.04	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
Orejas-----	30	Very limited Depth to bedrock	1.00	Very limited Thin layer Large stones content	1.00 0.67	Very limited Depth to water	1.00
4: Montecito-----	45	Somewhat limited Seepage Slope	0.72 0.06	Somewhat limited Piping	0.31	Very limited Depth to water	1.00
Montecito, bouldery-	35	Very limited Seepage Slope	1.00 0.06	Somewhat limited Piping Seepage	0.75 0.03	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
10: Trail-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.06	Very limited Depth to water	1.00
11: Trail-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
13: Sandoval-----	65	Somewhat limited Depth to bedrock	0.66	Very limited Thin layer Piping	1.00 0.08	Very limited Depth to water	1.00
Querencia-----	20	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.38	Very limited Depth to water	1.00
15: Camino-----	40	Somewhat limited Depth to bedrock	0.01	Somewhat limited Hard to pack Thin layer	0.46 0.08	Very limited Depth to water	1.00
Sandoval-----	35	Somewhat limited Depth to bedrock	0.58	Very limited Thin layer Piping	1.00 0.96	Very limited Depth to water	1.00
16: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Prieta-----	30	Very limited Depth to bedrock	1.00	Very limited Thin layer Large stones content	1.00 0.06	Very limited Depth to water	1.00
17: Vessilla-----	35	Very limited Depth to bedrock	1.00	Very limited Thin layer Seepage	1.00 0.03	Very limited Depth to water	1.00
Menefee-----	25	Somewhat limited Depth to bedrock	0.84	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
18: Sparham-----	85	Somewhat limited Seepage	0.04	Very limited Piping Salinity	1.00 0.03	Very limited Depth to water	1.00
20: Gilco-----	85	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.41	Very limited Depth to water	1.00
21: Rock outcrop-----	60	Not rated		Not rated		Not rated	
Hackroy-----	25	Very limited Depth to bedrock	1.00	Very limited Thin layer Hard to pack	1.00 0.06	Very limited Depth to water	1.00
22: Aga-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.42	Very limited Cutbanks cave Depth to saturated zone	1.00 0.90
23: Hickman-----	85	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.05	Very limited Depth to water	1.00
24: Orlie-----	45	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.23	Very limited Depth to water	1.00
Sparham-----	35	Not limited		Very limited Piping Salinity	1.00 0.12	Very limited Depth to water	1.00
25: Gilco-----	85	Somewhat limited Seepage	0.72	Very limited Piping Seepage	0.99 0.01	Very limited Depth to water	1.00
26: Orlie-----	85	Somewhat limited Seepage	0.04	Somewhat limited Piping	0.01	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
27: Aga-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.79	Very limited Cutbanks cave Depth to saturated zone	1.00 0.90
29: Trail-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
31: Riverwash-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.93	Very limited Depth to water	1.00
33: Pits-----	100	Somewhat limited Seepage	0.07	Not rated		Not rated	
34: Ildefonso-----	55	Somewhat limited Seepage	0.72	Somewhat limited Large stones content Seepage	0.70 0.03	Very limited Depth to water	1.00
Witt-----	30	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.55	Very limited Depth to water	1.00
41: Dune land-----	100	Very limited Seepage	1.00	Somewhat limited Seepage	0.93	Very limited Depth to water	1.00
47: Cascajo-----	85	Very limited Seepage Slope	1.00 0.15	Somewhat limited Seepage	0.25	Very limited Depth to water	1.00
51: Sparham-----	85	Somewhat limited Seepage	0.04	Very limited Depth to saturated zone Piping Salinity	1.00 1.00 0.12	Somewhat limited Slow refill Salinity and saturated zone Cutbanks cave	0.96 0.50 0.10

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
52: Totavi-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
53: Witt-----	55	Somewhat limited Seepage	0.72	Very limited Piping	0.99	Very limited Depth to water	1.00
Harvey-----	30	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.75 0.03	Very limited Depth to water	1.00
54: Harvey-----	45	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.66	Very limited Depth to water	1.00
Cascajo-----	40	Very limited Seepage	1.00	Somewhat limited Seepage	0.79	Very limited Depth to water	1.00
55: La Fonda-----	85	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.50	Very limited Depth to water	1.00
56: Ildefonso-----	85	Somewhat limited Seepage	0.72	Somewhat limited Large stones content Seepage	0.53 0.05	Very limited Depth to water	1.00
57: Badland-----	90	Very limited Depth to bedrock Slope	1.00 1.00	Not rated		Not rated	
58: Deama-----	45	Very limited Depth to bedrock Slope	1.00 0.21	Very limited Thin layer Piping Large stones content	1.00 1.00 0.01	Very limited Depth to water	1.00
Elpedro-----	35	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.31	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
59: Harvey-----	35	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.12	Very limited Depth to water	1.00
Ildefonso-----	35	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage Large stones content	0.79 0.02	Very limited Depth to water	1.00
La Fonda-----	15	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.39	Very limited Depth to water	1.00
63: Placitas-----	85	Very limited Seepage Depth to bedrock Slope	1.00 0.93 0.24	Somewhat limited Thin layer Seepage	0.93 0.03	Very limited Depth to water	1.00
64: Skyvillage-----	40	Very limited Depth to bedrock Slope	1.00 0.06	Very limited Thin layer Seepage	1.00 0.03	Very limited Depth to water	1.00
Ildefonso-----	35	Very limited Seepage Slope	1.00 0.24	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
65: Ildefonso-----	50	Very limited Seepage Slope	1.00 0.21	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Harvey-----	30	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
66: Zia-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
67: Sandoval-----	40	Somewhat limited Depth to bedrock Slope	0.80 0.06	Very limited Thin layer Piping	1.00 0.06	Very limited Depth to water	1.00
Poley-----	35	Very limited Seepage Slope	1.00 0.03	Somewhat limited Piping Seepage	0.70 0.03	Very limited Depth to water	1.00
68: Penistaja-----	45	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.40	Very limited Depth to water	1.00
Querencia-----	35	Very limited Seepage	1.00	Somewhat limited Seepage	0.01	Very limited Depth to water	1.00
71: Palon-----	85	Very limited Seepage Slope	1.00 0.28	Somewhat limited Large stones content Seepage	0.05 0.03	Very limited Depth to water	1.00
72: Palon-----	85	Very limited Seepage Slope	1.00 1.00	Very limited Large stones content Seepage	1.00 0.38	Very limited Depth to water	1.00
74: Origo-----	50	Very limited Seepage Slope	1.00 0.28	Somewhat limited Large stones content Seepage	0.55 0.03	Very limited Depth to water	1.00
Pavo-----	25	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
75: Origo-----	85	Very limited Seepage Slope	1.00 1.00	Very limited Large stones content Seepage	0.99 0.10	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
82: Calaveras-----	85	Very limited Seepage Slope	1.00 0.28	Somewhat limited Seepage	0.25	Very limited Depth to water	1.00
83: Calaveras-----	60	Very limited Seepage Slope	1.00 0.99	Somewhat limited Seepage Large stones content	0.06 0.01	Very limited Depth to water	1.00
Rubble land-----	20	Very limited Seepage Slope	1.00 0.99	Very limited Large stones content Seepage	1.00 1.00	Very limited Depth to water	1.00
85: Redondo-----	85	Very limited Seepage Slope	1.00 0.28	Somewhat limited Seepage	0.07	Very limited Depth to water	1.00
86: Redondo-----	85	Very limited Seepage Slope	1.00 1.00	Somewhat limited Large stones content Seepage	0.53 0.50	Very limited Depth to water	1.00
87: Redondo-----	50	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.07	Very limited Depth to water	1.00
Rubble land-----	25	Very limited Seepage Slope	1.00 1.00	Very limited Large stones content Seepage	1.00 1.00	Very limited Depth to water	1.00
88: Totavi-----	45	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
88: Jemez-----	30	Somewhat limited Depth to bedrock Seepage	0.93 0.04	Somewhat limited Thin layer Piping	0.93 0.31	Very limited Depth to water	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
91: Zia-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
92: Galisteo, moderately saline, sodic-----	85	Not limited		Very limited Hard to pack Salinity	1.00 0.50	Very limited Depth to water	1.00
93: Zia-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
95: El Rancho-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
97: El Rancho-----	85	Somewhat limited Seepage	0.72	Not limited		Very limited Depth to water	1.00
100: Orejas-----	40	Very limited Depth to bedrock Slope	1.00 0.41	Very limited Thin layer Large stones content	1.00 0.61	Very limited Depth to water	1.00
Rock outcrop-----	40	Not rated		Not rated		Not rated	
101: Blancot-----	55	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.88 0.03	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
101: Lybrook-----	25	Somewhat limited Seepage	0.04	Very limited Piping Salinity	1.00 0.97	Very limited Depth to water	1.00
102: Sparham-----	85	Somewhat limited Seepage	0.04	Very limited Piping Salinity	1.00 0.12	Very limited Depth to water	1.00
104: Cochiti-----	50	Very limited Seepage Slope	1.00 0.06	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
Montecito-----	30	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
105: Badland-----	50	Very limited Depth to bedrock Slope	1.00 0.28	Not rated		Not rated	
Menefee-----	30	Somewhat limited Depth to bedrock Slope	0.84 0.28	Very limited Thin layer Piping	1.00 0.08	Very limited Depth to water	1.00
106: Stumble-----	50	Very limited Seepage Slope	1.00 0.28	Somewhat limited Seepage	0.58	Very limited Depth to water	1.00
Stumble, sandy-----	30	Very limited Seepage	1.00	Somewhat limited Seepage	0.47	Very limited Depth to water	1.00
108: Embudo-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
109: Embudo-----	50	Very limited Seepage	1.00	Somewhat limited Seepage	0.12	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
109: Tijeras-----	35	Very limited Seepage	1.00	Somewhat limited Seepage	0.06	Very limited Depth to water	1.00
110: Rock outcrop-----	45	Not rated		Not rated		Not rated	
Saido-----	40	Somewhat limited Seepage Slope	0.72 0.21	Very limited Piping	1.00	Very limited Depth to water	1.00
111: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Zia-----	35	Very limited Seepage Slope	1.00 0.06	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
112: Tijeras-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
114: San Mateo-----	40	Somewhat limited Seepage	0.04	Somewhat limited Salinity Seepage	0.97 0.03	Very limited Depth to water	1.00
Zia-----	40	Very limited Seepage	1.00	Somewhat limited Seepage	0.01	Very limited Depth to water	1.00
120: Pinavetes-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.79	Very limited Depth to water	1.00
124: Rock outcrop-----	90	Not rated		Not rated		Not rated	
129: Menefee-----	85	Somewhat limited Depth to bedrock Slope	0.58 0.12	Very limited Thin layer	1.00	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
130: Pinavetes-----	45	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
Galisteo, moderately saline, sodic-----	40	Not limited		Very limited Hard to pack Salinity	1.00 0.50	Very limited Depth to water	1.00
142: Grieta-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
143: Clovis-----	85	Somewhat limited Seepage	0.72	Not limited		Very limited Depth to water	1.00
145: Grieta-----	55	Very limited Seepage	1.00	Somewhat limited Seepage	0.06	Very limited Depth to water	1.00
Sheppard-----	40	Very limited Seepage	1.00	Somewhat limited Seepage	0.06	Very limited Depth to water	1.00
146: Sedmar-----	85	Very limited Depth to bedrock	1.00	Very limited Thin layer Seepage	1.00 0.10	Very limited Depth to water	1.00
150: Doakum-----	55	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.46	Very limited Depth to water	1.00
Betonnies-----	35	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
162: Hackroy-----	45	Very limited Depth to bedrock	1.00	Very limited Thin layer Hard to pack	1.00 0.08	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
162: Nyjack-----	40	Very limited Seepage Depth to bedrock	1.00 0.01	Somewhat limited Piping Thin layer Seepage	0.71 0.52 0.03	Very limited Depth to water	1.00
163: Jemez-----	85	Somewhat limited Seepage Depth to bedrock	0.72 0.52	Somewhat limited Thin layer Piping	0.52 0.11	Very limited Depth to water	1.00
170: San Mateo-----	85	Somewhat limited Seepage	0.04	Very limited Piping	1.00	Very limited Depth to water	1.00
180: Cuncelor-----	40	Very limited Seepage Slope	1.00 0.08	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
Eslando-----	30	Somewhat limited Depth to bedrock Slope	0.84 0.08	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Mespun-----	25	Very limited Seepage Slope	1.00 0.08	Somewhat limited Seepage	0.07	Very limited Depth to water	1.00
183: Sheppard-----	85	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage	0.06	Very limited Depth to water	1.00
185: Frijoles-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
190: Zia-----	35	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
190: Skyvillage-----	25	Very limited Depth to bedrock Slope	1.00 0.21	Very limited Thin layer Seepage	1.00 0.01	Very limited Depth to water	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
191: Sheppard-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.06	Very limited Depth to water	1.00
200: Sedillo-----	85	Very limited Seepage Slope	1.00 0.03	Somewhat limited Seepage	0.06	Very limited Depth to water	1.00
201: Rock outcrop-----	55	Not rated		Not rated		Not rated	
Sedgran-----	35	Very limited Depth to bedrock Slope	1.00 0.88	Very limited Thin layer Seepage	1.00 0.12	Very limited Depth to water	1.00
206: Pinitos-----	85	Somewhat limited Seepage	0.04	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
207: Penistaja-----	60	Very limited Seepage	1.00	Somewhat limited Seepage	0.01	Very limited Depth to water	1.00
Zia-----	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.01	Very limited Depth to water	1.00
208: Sedillo-----	85	Very limited Seepage Slope	1.00 0.88	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
210: Ildefonso-----	85	Somewhat limited Slope	0.99	Somewhat limited Large stones content	0.97	Very limited Depth to water	1.00
		Seepage	0.72				
211: Zia-----	45	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
Clovis-----	30	Somewhat limited Seepage	0.72	Somewhat limited Seepage	0.01	Very limited Depth to water	1.00
213: Pinavetes-----	55	Very limited Seepage Slope	1.00 0.28	Somewhat limited Seepage	0.79	Very limited Depth to water	1.00
Rock outcrop-----	30	Not rated		Not rated		Not rated	
215: Ess-----	60	Somewhat limited Seepage	0.72	Somewhat limited Large stones content	0.33	Very limited Depth to water	1.00
		Slope	0.28				
Rock outcrop-----	30	Not rated		Not rated		Not rated	
217: Witt-----	85	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.50	Very limited Depth to water	1.00
218: Ildefonso-----	85	Very limited Seepage	1.00	Somewhat limited Large stones content Seepage	0.71 0.03	Very limited Depth to water	1.00
220: Rock outcrop-----	40	Not rated		Not rated		Not rated	

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
220: Vessilla-----	30	Very limited Depth to bedrock Slope	1.00 0.72	Very limited Thin layer Seepage	1.00 0.03	Very limited Depth to water	1.00
Menefee-----	20	Somewhat limited Depth to bedrock Slope	0.84 0.72	Very limited Thin layer	1.00	Very limited Depth to water	1.00
226: Galisteo, moderately saline, sodic-----	85	Somewhat limited Seepage	0.04	Very limited Piping Salinity	1.00 0.50	Very limited Depth to water	1.00
227: Hagerman-----	65	Somewhat limited Depth to bedrock Seepage	0.74 0.04	Somewhat limited Thin layer Piping	0.74 0.06	Very limited Depth to water	1.00
Bond-----	20	Very limited Depth to bedrock	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
228: Winona-----	85	Very limited Depth to bedrock Slope	1.00 0.06	Very limited Thin layer	1.00	Very limited Depth to water	1.00
230: Skyvillage-----	35	Very limited Depth to bedrock Slope	1.00 0.01	Very limited Thin layer Seepage	1.00 0.03	Very limited Depth to water	1.00
Sandoval-----	25	Somewhat limited Depth to bedrock Slope	0.84 0.01	Very limited Thin layer Piping	1.00 0.04	Very limited Depth to water	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
231: Querencia-----	85	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.50	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
234: Querencia-----	60	Somewhat limited Seepage	0.72	Not limited		Very limited Depth to water	1.00
Zia-----	20	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
235: Sandoval-----	85	Somewhat limited Depth to bedrock	0.50	Very limited Thin layer Piping	1.00 0.95	Very limited Depth to water	1.00
236: Sparank, moderately saline, sodic-----	85	Somewhat limited Seepage	0.04	Very limited Piping Salinity	1.00 0.50	Very limited Depth to water	1.00
237: Sparank-----	85	Somewhat limited Seepage	0.04	Somewhat limited Piping	0.40	Very limited Depth to water	1.00
240: Penistaja-----	45	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.52	Very limited Depth to water	1.00
Hagerman-----	35	Somewhat limited Depth to bedrock Seepage	0.98 0.04	Somewhat limited Thin layer Piping	0.98 0.03	Very limited Depth to water	1.00
250: Pinavetes-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.07	Very limited Depth to water	1.00
262: Pastura-----	90	Very limited Depth to cemented pan Seepage	1.00 0.01	Very limited Thin layer Piping	1.00 0.50	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
270: Blancot-----	40	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.60 0.03	Very limited Depth to water	1.00
Councilor-----	30	Very limited Seepage	1.00	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Tsosie-----	25	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.03	Very limited Depth to water	1.00
281: Carjo-----	90	Very limited Seepage Depth to bedrock	1.00 0.96	Somewhat limited Thin layer Piping	0.96 0.01	Very limited Depth to water	1.00
282: Tocal-----	85	Somewhat limited Depth to bedrock	0.69	Very limited Thin layer Piping	1.00 0.76	Very limited Depth to water	1.00
283: Mirand-----	45	Somewhat limited Slope Seepage	0.08 0.04	Not limited		Very limited Depth to water	1.00
Alanos-----	30	Somewhat limited Slope Seepage	0.21 0.04	Somewhat limited Seepage	0.50	Very limited Depth to water	1.00
290: Alanos-----	50	Somewhat limited Slope	0.50	Somewhat limited Seepage	0.12	Very limited Depth to water	1.00
Rock outcrop-----	30	Not rated		Not rated		Not rated	
300: Waumac-----	50	Very limited Seepage	1.00	Somewhat limited Seepage	0.01	Very limited Depth to water	1.00
Bamac-----	35	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
301: Vastine-----	45	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	0.99 0.38	Very limited Cutbanks cave Depth to saturated zone	1.00 0.01
Jarola-----	40	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	0.99 0.05	Very limited Cutbanks cave Depth to saturated zone	1.00 0.01
302: Tranquilar-----	50	Not limited		Somewhat limited Depth to saturated zone Hard to pack	0.68 0.31	Very limited Slow refill Depth to saturated zone Cutbanks cave	1.00 0.14 0.10
Jarmillo-----	30	Very limited Seepage	1.00	Somewhat limited Piping	0.75	Very limited Depth to water	1.00
304: Cosey-----	45	Somewhat limited Seepage Slope	0.72 0.01	Not limited		Very limited Depth to water	1.00
Jarmillo-----	40	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
307: Flugle-----	60	Very limited Seepage	1.00	Somewhat limited Seepage	0.02	Very limited Depth to water	1.00
Waumac-----	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
308: Cajete-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.79	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
311: Cosey-----	35	Somewhat limited Seepage Slope	0.72 0.01	Somewhat limited Seepage Large stones content	0.32 0.03	Very limited Depth to water	1.00
Tranquilar-----	30	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone	0.68	Very limited Slow refill Depth to saturated zone Cutbanks cave	1.00 0.14 0.10
Calaveras-----	25	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
312: Royosa-----	90	Very limited Seepage	1.00	Somewhat limited Seepage	0.79	Very limited Depth to water	1.00
314: Fragua-----	40	Very limited Seepage	1.00	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Waumac-----	30	Very limited Seepage	1.00	Somewhat limited Seepage	0.06	Very limited Depth to water	1.00
Royosa-----	25	Very limited Seepage	1.00	Somewhat limited Seepage	0.31	Very limited Depth to water	1.00
317: Elpedro-----	85	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.22	Very limited Depth to water	1.00
319: Bamac-----	60	Very limited Seepage Slope	1.00 0.72	Somewhat limited Seepage	0.12	Very limited Depth to water	1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
320: Sparham-----	85	Not limited		Very limited Piping Salinity	1.00 0.12	Very limited Depth to water	1.00
321: Waumac-----	60	Very limited Seepage	1.00	Somewhat limited Seepage	0.06	Very limited Depth to water	1.00
Royosa-----	30	Very limited Seepage	1.00	Somewhat limited Seepage	0.31	Very limited Depth to water	1.00
322: Fragua-----	85	Very limited Seepage Slope Depth to bedrock	1.00 0.94 0.01	Somewhat limited Thin layer Seepage	0.26 0.06	Very limited Depth to water	1.00
324: Rock outcrop-----	30	Not rated		Not rated		Not rated	
Atarque-----	25	Very limited Depth to bedrock Slope	1.00 0.03	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Menefee-----	25	Somewhat limited Depth to bedrock Slope	0.87 0.06	Very limited Thin layer Piping	1.00 0.02	Very limited Depth to water	1.00
325: Rock outcrop-----	35	Not rated		Not rated		Not rated	
Espiritu-----	25	Somewhat limited Slope Seepage	0.97 0.72	Not limited		Very limited Depth to water	1.00
Vessilla-----	25	Very limited Depth to bedrock Slope	1.00 0.88	Very limited Thin layer	1.00	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
342: Waumac-----	35	Very limited Seepage Slope	1.00 0.01	Somewhat limited Seepage	0.06	Very limited Depth to water	1.00
Vessilla-----	25	Very limited Depth to bedrock Slope	1.00 0.21	Very limited Thin layer Seepage	1.00 0.01	Very limited Depth to water	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
345: Espiritu-----	50	Very limited Seepage Slope	1.00 0.72	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Bamac-----	35	Very limited Seepage Slope	1.00 0.72	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
346: Espiritu, cobbly----	70	Very limited Seepage Slope	1.00 0.41	Somewhat limited Seepage Large stones content	0.10 0.01	Very limited Depth to water	1.00
Bamac-----	20	Very limited Seepage Slope	1.00 0.41	Somewhat limited Seepage	0.12	Very limited Depth to water	1.00
348: Wauquie-----	60	Very limited Seepage Slope	1.00 0.72	Somewhat limited Seepage	0.25	Very limited Depth to water	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
353: Cochiti-----	50	Very limited Seepage Slope	1.00 0.41	Somewhat limited Seepage	0.25	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
353: Espiritu-----	45	Very limited Seepage Slope	1.00 0.88	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
354: Waumac Variant-----	85	Somewhat limited Depth to bedrock	0.78	Very limited Thin layer Seepage	1.00 0.03	Very limited Depth to water	1.00
358: Deama-----	35	Very limited Depth to bedrock Slope	1.00 0.88	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Elpedro-----	25	Somewhat limited Seepage Slope	0.72 0.64	Somewhat limited Piping	0.09	Very limited Depth to water	1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
396: Atarque-----	30	Very limited Depth to bedrock Slope	1.00 0.72	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Menefee-----	30	Somewhat limited Slope Depth to bedrock	0.72 0.69	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
397: Rock outcrop-----	30	Not rated		Not rated		Not rated	
Cucho-----	25	Somewhat limited Slope Seepage Depth to bedrock	0.99 0.04 0.02	Somewhat limited Thin layer	0.61	Very limited Depth to water	1.00
Vessilla-----	25	Very limited Depth to bedrock Slope	1.00 0.97	Very limited Thin layer Seepage	1.00 0.01	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
398: Espiritu-----	45	Very limited Seepage Slope	1.00 0.59	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Cucho-----	35	Somewhat limited Slope Seepage Depth to bedrock	0.72 0.04 0.02	Somewhat limited Thin layer	0.61	Very limited Depth to water	1.00
399: Cucho-----	45	Somewhat limited Slope Seepage Depth to bedrock	0.41 0.04 0.02	Somewhat limited Thin layer	0.61	Very limited Depth to water	1.00
Teco-----	35	Very limited Seepage Slope	1.00 0.24	Not limited		Very limited Depth to water	1.00
405: Charo-----	50	Somewhat limited Depth to bedrock	0.91	Somewhat limited Thin layer Hard to pack	0.91 0.26	Very limited Depth to water	1.00
Charo, noncobbly----	40	Somewhat limited Depth to bedrock	0.56	Somewhat limited Thin layer Hard to pack	0.56 0.03	Very limited Depth to water	1.00
409: Santa Fe-----	85	Very limited Depth to bedrock Slope	1.00 0.41	Very limited Thin layer	1.00	Very limited Depth to water	1.00
410: Zia-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
414: Wauquie-----	85	Very limited Seepage Slope	1.00 0.06	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
417: Jocity-----	85	Very limited Seepage	1.00	Very limited Piping Seepage	1.00 0.10	Very limited Depth to water	1.00
418: Jocity-----	85	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.92 0.02	Very limited Depth to water	1.00
419: Santa Fe-----	40	Very limited Depth to bedrock Slope	1.00 0.99	Very limited Thin layer Seepage Large stones content	1.00 0.06 0.01	Very limited Depth to water	1.00
Wauquie-----	30	Very limited Seepage Slope	1.00 0.88	Somewhat limited Seepage Large stones content	0.79 0.08	Very limited Depth to water	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
420: Pinavetes-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.79	Very limited Depth to water	1.00
421: Gilco, moderately saline, sodic-----	90	Somewhat limited Seepage	0.72	Very limited Piping Salinity Seepage	1.00 0.50 0.01	Very limited Depth to water	1.00
422: Vessilla-----	35	Very limited Depth to bedrock Slope	1.00 0.08	Very limited Thin layer Seepage	1.00 0.03	Very limited Depth to water	1.00
Menefee-----	30	Somewhat limited Depth to bedrock	0.84	Very limited Thin layer	1.00	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
422: Orlie-----	25	Somewhat limited Seepage	0.04	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
423: Gilco-----	85	Somewhat limited Seepage	0.72	Very limited Piping	1.00	Very limited Depth to water	1.00
426: Aga, moderately saline, sodic-----	85	Very limited Seepage	1.00	Very limited Piping Seepage Salinity	1.00 0.79 0.50	Very limited Depth to water	1.00
427: Aga-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.02	Very limited Cutbanks cave Depth to saturated zone	1.00 0.90
428: Aga, moderately saline, sodic-----	85	Very limited Seepage	1.00	Very limited Piping Salinity Seepage	1.00 0.50 0.07	Very limited Depth to water	1.00
430: Trail-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
431: Trail-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
433: Peralta-----	85	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Piping Seepage	0.86 0.60 0.01	Very limited Cutbanks cave Slow refill Depth to saturated zone Salinity and saturated zone	1.00 0.28 0.06 0.06
434: Peralta-----	85	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Piping Seepage	0.86 0.60 0.10	Very limited Cutbanks cave Depth to saturated zone Salinity and saturated zone	1.00 0.06 0.06
437: Peralta, moderately saline, sodic-----	85	Somewhat limited Seepage	0.72	Very limited Piping Depth to saturated zone Salinity Seepage	1.00 0.86 0.50 0.01	Very limited Cutbanks cave Salinity and saturated zone Slow refill Depth to saturated zone	1.00 0.78 0.28 0.06
500: Rock outcrop-----	40	Not rated		Not rated		Not rated	
Osha-----	30	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.33	Somewhat limited Thin layer Seepage	0.34 0.14	Very limited Depth to water	1.00
Rubble land-----	20	Very limited Seepage Slope	1.00 1.00	Very limited Large stones content Seepage	1.00 1.00	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
503: Cajete-----	65	Very limited Seepage Slope	1.00 0.10	Somewhat limited Seepage	0.05	Very limited Depth to water	1.00
Cypher-----	25	Very limited Depth to bedrock Slope	1.00 0.88	Very limited Thin layer Seepage	1.00 0.03	Very limited Depth to water	1.00
504: Orejas-----	40	Very limited Depth to bedrock	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Guaje-----	35	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
600: Rock outcrop-----	50	Not rated		Not rated		Not rated	
Cypher-----	35	Very limited Depth to bedrock Slope	1.00 0.99	Very limited Thin layer	1.00	Very limited Depth to water	1.00
601: Laventana-----	85	Somewhat limited Seepage Depth to bedrock	0.72 0.10	Somewhat limited Thin layer	0.11	Very limited Depth to water	1.00
603: Laventana-----	50	Somewhat limited Slope Seepage Depth to bedrock	0.82 0.72 0.08	Somewhat limited Thin layer	0.08	Very limited Depth to water	1.00
Mirand-----	35	Somewhat limited Slope Seepage	0.12 0.04	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
604: Cypher-----	55	Very limited Depth to bedrock Slope	1.00 0.28	Very limited Thin layer Seepage	1.00 0.03	Very limited Depth to water	1.00

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
604: Mirand-----	30	Somewhat limited Slope	0.72	Not limited		Very limited Depth to water	1.00
608: Osha, steep-----	60	Very limited Seepage Slope	1.00 0.97	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
Osha-----	30	Very limited Seepage Slope	1.00 0.10	Somewhat limited Seepage	0.25	Very limited Depth to water	1.00
823: Gilco, unprotected--	85	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.50	Very limited Depth to water	1.00
827: Aga, unprotected----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.06	Very limited Cutbanks cave Depth to saturated zone	1.00 0.90
830: Trail, unprotected--	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.02	Very limited Depth to water	1.00
831: Trail, unprotected--	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.79	Very limited Depth to water	1.00
835: Peralta, unprotected	85	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone	0.86	Somewhat limited Slow refill	0.28
						Cutbanks cave	0.10
						Depth to saturated zone	0.06
						Salinity and saturated zone	0.06

Table 13.--Ponds and embankments--continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
842: Peralta, moderately saline, sodic, unprotected-----	85	Somewhat limited Seepage	0.72	Very limited Piping Depth to saturated zone Salinity	1.00 0.86 0.50	Somewhat limited Salinity and saturated zone Slow refill Cutbanks cave Depth to saturated zone	0.78 0.28 0.10 0.06
850: Water-----	95	Not rated		Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated		Not rated	

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
1: Silver-----	0-4	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	4-8	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	8-20	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	20-39	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	39-60	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
Clovis-----	0-3	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	3-20	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	20-40	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	40-60	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
2: Clovis-----	0-3	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	3-24	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	24-60	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
Prieta-----	0-3	Very stony loam	GC	A-2-4	20-50	0	50-70	40-60	30-50	15-35	15-30	5-20
	3-10	Very stony clay loam	GC	A-2-6	20-50	0	50-70	40-60	35-55	15-35	30-40	10-15
	10-14	Very stony clay loam	SC	A-2-6	15-35	0	65-85	55-75	40-60	20-40	30-40	10-15
	14-19	Very stony clay loam	GC	A-2-6	30-50	0	50-70	40-60	35-55	15-35	30-40	10-15
	19-60	Bedrock			---	---	---	---	---	---	---	---
Silver-----	0-8	Loam	CL	A-6	0	0-5	95-100	90-100	80-100	50-60	25-40	10-25
	8-30	Silty clay loam	CL	A-6	0	0-3	95-100	85-100	80-100	70-90	35-45	15-25
	30-60	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
3: Montecito-----	0-3	Fine sandy loam	SC-SM	A-4	0	0-9	90-100	85-100	75-85	35-50	20-30	4-7
	3-18	Clay loam	CL	A-6	0	0-6	90-100	85-100	80-95	70-90	35-50	15-25
	18-60	Clay loam	CL	A-6	0	0-3	90-100	85-100	80-95	70-90	35-50	15-25
Orejas-----	0-2	Cobbly loam	GC	A-6	0	15-40	60-80	60-80	50-70	30-50	20-35	10-20
	2-5	Very cobbly clay loam	GC	A-2-6	0	25-50	45-65	45-65	40-60	20-40	25-40	10-20
	5-14	Very cobbly clay loam	GC	A-2-6	0	30-50	45-65	45-65	40-60	20-40	25-40	10-20
	14-17	Very cobbly clay loam	GC	A-2-6	0	25-55	45-65	45-65	40-60	20-40	25-40	10-20
	17-19	Very gravelly clay loam	SC	A-2-6	0	0-15	80-100	50-70	40-60	20-40	25-40	10-20
	19-60	Bedrock			---	---	---	---	---	---	---	---
4: Montecito-----	0-3	Fine sandy loam	SC-SM	A-4	0	0-10	90-100	85-100	75-85	35-50	20-30	4-7
	3-22	Clay loam	CL	A-6	0	0-5	90-100	85-100	80-95	70-90	35-50	15-25
	22-60	Loam	CL	A-6	0	0-5	90-100	85-95	80-95	50-60	25-40	10-25
Montecito, bouldery-----	0-5	Extremely bouldery loam	GC-GM	A-1-b	10-35	20-45	30-50	30-45	25-40	15-25	20-30	4-7
	5-28	Clay loam	CL	A-6	0-3	0-6	90-100	85-95	80-90	70-90	35-50	15-25
	28-45	Loam	CL	A-6	0	0-5	90-100	85-95	80-90	50-60	25-40	10-25
	45-60	Sandy loam	SC-SM	A-2-4	0	0-5	90-100	85-95	60-80	25-45	20-30	4-7
10: Trail-----	0-6	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	6-30	Stratified loamy sand to sandy loam	SM	A-2-4	0	0	100	100	60-80	20-40	16-24	2-6
	30-45	Sand	SW-SM	A-2-4, A-3	0	0	100	100	60-80	0-20	0-0	NP
	45-60	Loamy fine sand	SM	A-2-4	0	0	100	100	65-85	20-40	15-20	NP-4
11: Trail-----	0-9	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	9-36	Stratified loamy sand to sandy loam	SM	A-2-4	0	0	100	100	60-80	20-40	15-20	NP-4
	36-60	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
13: Sandoval-----	0-2	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	2-6	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	6-10	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	10-15	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	15-60	Bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
13: Querencia-----	0-4	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	4-12	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	12-24	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	24-60	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
15: Camino-----	0-2	Silty clay loam	CL	A-6	0	0	100	100	92-100	75-90	35-45	15-25
	2-5	Clay	CH	A-7-6	0	0	100	100	95-100	70-90	50-60	25-35
	5-20	Clay	CH	A-7-6	0	0	100	100	95-100	70-90	50-60	25-35
	20-51	Clay	CH	A-7-6	0	0	100	90-100	90-100	70-90	50-60	25-35
	51-60	Bedrock			---	---	---	---	---	---	---	---
Sandoval-----	0-2	Fine sandy loam	SC-SM	A-4	0	0-3	95-100	90-100	75-85	35-50	20-30	4-7
	2-17	Clay loam	CL	A-6	0	0	95-100	90-100	85-95	70-90	35-50	15-25
	17-60	Bedrock			---	---	---	---	---	---	---	---
16: Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
Prieta-----	0-5	Stony silt loam	SC, CL	A-4, A-6	0-15	0	80-100	70-90	60-80	40-60	20-30	10-15
	5-15	Very stony clay loam	SC	A-2-6	25-45	0	55-75	35-55	25-45	10-30	30-40	10-15
	15-19	Very stony clay loam	GC	A-2-6	30-50	0	50-70	40-60	30-50	10-30	30-40	10-15
	19-60	Bedrock			---	---	---	---	---	---	---	---
17: Vessilla-----	0-5	Sandy loam	SC-SM	A-2-4	0	0-5	100	100	60-80	25-45	20-30	4-7
	5-11	Sandy loam	SC-SM	A-2-4	0	0-6	90-100	85-100	55-75	25-45	20-30	4-7
	11-60	Bedrock			---	---	---	---	---	---	---	---
Menefee-----	0-3	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	3-10	Clay loam	CL	A-6	0	0	90-100	85-100	80-100	65-85	35-50	15-25
	10-60	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
18: Sparham-----	0-7	Clay	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	7-20	Clay, clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	20-29	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	29-47	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	47-53	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	53-60	Clay loam	CL	A-6	0	0	100	85-100	80-90	70-90	35-50	15-25
20: Gilco-----	0-6	Clay loam	CL	A-6	0	0	90-100	80-100	80-90	70-90	35-50	15-25
	6-60	Stratified fine sandy loam to loam	CL, SC-SM	A-6, A-4	0	0	90-100	80-100	80-90	50-60	25-40	10-25
21: Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
Hackroy-----	0-3	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
	3-12	Clay	CH	A-7-6	0	0	95-100	95-100	90-100	70-90	50-60	25-35
	12-60	Bedrock			---	---	---	---	---	---	---	---
22: Aga-----	0-8	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	35-40	15-20
	8-24	Loam	CL	A-4	0	0	95-100	90-100	65-95	40-70	20-25	5-10
	24-60	Sand	SW-SM, SM	A-3, A-2	0	0	90-100	85-100	50-80	5-30	0-0	NP
23: Hickman-----	0-4	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	4-12	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	12-49	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	49-60	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
24: Orlie-----	0-2	Fine sandy loam	SC-SM	A-4	0	0	90-100	75-100	70-90	35-50	20-30	4-7
	2-25	Clay loam	CL	A-6	0	0	85-100	85-100	75-95	70-90	35-50	15-25
	25-60	Stratified sandy clay loam to clay loam	SC	A-6	0	0	90-100	85-100	75-90	40-50	25-35	10-20
Sparham-----	0-3	Clay	CH	A-7-6	0	0	90-100	85-95	80-90	70-90	50-60	25-35
	3-60	Silty clay	CL	A-7-6	0	0	100	85-100	80-100	75-95	40-50	15-25

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct.	Pct.					Pct.	
25: Gilco-----	In.											
	0-4	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	4-34	Stratified silt loam to loam to fine sandy loam	CL, CL-ML, SC-SM	A-6, A-4	0	0	100	100	80-100	50-60	20-40	4-25
	34-60	Stratified fine sandy loam to loam	CL-ML	A-4	0	0	100	100	80-100	50-60	20-30	4-7
26: Orlie-----	0-2	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	2-13	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	13-22	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	22-36	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-50	15-25
	36-50	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	50-60	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-50	15-25
27: Aga-----	0-10	Loam	CL	A-4	0	0	100	100	70-95	45-70	20-30	5-10
	10-23	Loam	CL	A-4	0	0	95-100	90-100	65-95	40-70	20-25	5-10
	23-43	Sand	SW-SM	A-2-4	0	0	100	100	65-80	0-20	0-0	NP
	43-60	Sand	SW-SM	A-2-4	0	0	100	85-95	65-80	0-20	0-0	NP
29: Trail-----	0-6	Loamy sand	SM	A-2-4	0	0	100	100	60-80	20-40	15-20	NP-4
	6-60	Stratified loamy sand to sandy loam	SM	A-2-4	0	0	100	100	60-80	20-40	14-23	2-4
31: Riverwash-----	0-6	Sand	SP-SM	A-3	0	0-4	79-100	78-100	59-77	4-7	0-14	NP
	6-60	Stratified coarse sand to sandy loam	SW-SM, SP, SP-SM	A-1, A-2, A-3	0	0-6	81-100	57-100	40-75	3-11	10-15	NP-3
33: Pits-----	0-60	Variable			---	---	---	---	---	---	---	---
34: Ildefonso-----	0-3	Cobbly loam	SC	A-6	3-10	15-30	65-85	60-75	40-60	30-50	25-35	10-20
	3-17	Cobbly loam	CL, GC	A-6	0	15-30	65-85	65-80	45-65	45-55	25-35	10-20
	17-60	Stratified very cobbly sandy loam to very cobbly loam	GC	A-2-4	0	43-65	50-70	40-60	20-30	15-30	20-30	6-13
Witt-----	0-3	Very fine sandy loam	CL, SC	A-4	0	0	100	100	80-100	40-60	25-35	5-15
	3-27	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	27-60	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
41: Dune land-----	0-6	Sand	SW-SM	A-2-4, A-3	0	0	100	100	50-70	0-15	5-15	NP
	6-60	Sand, fine sand	SM	A-2-4	0	0	100	100	50-80	0-25	5-15	NP
47: Cascajo-----	0-2	Very gravelly sandy loam	SC-SM	A-2-4	0	10-25	65-85	30-50	25-45	20-40	20-30	4-7
	2-5	Very gravelly sandy loam	SC-SM	A-2-4	0	10-25	70-90	35-50	25-45	20-40	20-30	4-7
	5-11	Very gravelly sandy loam	SC-SM	A-2-4	0	0-10	65-85	45-65	40-60	25-45	20-30	4-7
	11-23	Very gravelly loamy sand	SM	A-2-4	0	0-10	60-80	40-50	35-45	20-40	15-20	NP-4
	23-30	Very gravelly loamy sand	SM	A-1-b	0	0-20	55-75	35-55	30-45	15-35	15-20	NP-4
	30-60	Extremely cobbly loamy sand	GM	A-1-a	0	25-60	30-50	15-25	15-25	10-20	15-20	NP-4
51: Sparham-----	0-6	Clay loam	CL	A-6	0	0	100	90-100	85-95	65-85	35-50	15-25
	6-20	Clay loam	CL	A-6	0	0	100	95-100	90-100	70-90	35-50	15-25
	20-36	Clay	CH	A-7-6	0	0	100	95-100	90-100	70-90	50-60	25-35
	36-60	Clay loam	CL	A-6	0	0	100	95-100	90-100	70-90	35-50	15-25
52: Totavi-----	0-15	Loamy sand	SM	A-2-4	0	0	100	85-100	60-80	15-35	10-20	NP-4
	15-19	Loamy sand	SM	A-2-4	0	0	100	85-100	60-80	15-35	10-20	NP-4
	19-60	Loamy sand	SM	A-2-4	0	0	100	85-100	60-80	15-35	10-20	NP-4

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct.	Pct.					Pct.	
53: Witt-----	In.											
	0-3	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	3-6	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	25-30	4-7
	6-11	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	11-18	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	18-25	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	25-39	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	25-30	4-7
	39-53	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	25-30	4-7
	53-60	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	25-30	4-7
Harvey-----	0-10	Loam	CL	A-6	0	0	95-100	90-100	85-100	50-60	25-40	10-25
	10-28	Clay loam	CL	A-6	0	0	95-100	90-100	85-95	70-90	35-50	15-25
	28-42	Sandy clay loam	SC	A-6	0	0	90-100	85-95	75-90	40-50	25-35	10-20
	42-60	Sandy loam	SC-SM	A-2-4	0	0	95-100	90-100	60-80	25-45	20-30	4-7
54: Harvey-----	0-2	Fine sandy loam	SC-SM	A-4	0	0	95-100	90-100	75-85	35-50	20-30	4-7
	2-11	Fine sandy loam	SC-SM	A-4	0	0	100	95-100	75-85	35-50	20-30	4-7
	11-23	Clay loam	CL	A-6	0	0	90-100	85-95	80-90	70-90	35-50	15-25
	23-60	Sandy clay loam	SC	A-6	0	0	95-100	90-100	75-90	40-50	25-35	10-20
Cascajo-----	0-3	Very gravelly sandy loam	SC-SM	A-2-4	0	0-15	65-85	45-60	40-60	25-45	20-30	4-7
	3-9	Very gravelly sandy loam	SC-SM	A-2-4	0	0-15	70-90	50-65	45-65	25-45	20-30	4-7
	9-28	Very gravelly sand	SW-SM	A-1-b	0	0-15	60-80	40-60	35-45	0-20	0-0	NP
	28-60	Very gravelly sand	SW-SM	A-1-b	0	5-25	70-90	40-60	30-50	0-20	0-0	NP
55: La Fonda-----	0-4	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	4-26	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	26-60	Loam, clay loam	CL	A-6	0	0	100	95-100	85-100	50-60	25-40	10-25
56: Ildefonso-----	0-3	Cobbly loam	CL	A-6	0-5	15-30	70-85	60-80	45-65	40-60	25-40	10-25
	3-9	Cobbly loam	CL	A-6	0	10-30	70-85	65-80	50-70	50-65	25-40	10-25
	9-15	Very gravelly loam	SC	A-6	0	0-10	75-95	50-65	40-60	35-55	25-40	10-25
	15-60	Very cobbly loam	GC	A-2-6	5-10	35-55	40-55	40-55	25-35	20-35	25-40	10-25
57: Badland-----	0-60	Bedrock			---	---	---	---	---	---	---	---
58: Deama-----	0-7	Very stony silt loam	ML	A-4	10-25	0-15	60-80	55-75	50-70	45-65	25-30	4-7
	7-14	Very cobbly silt loam	ML	A-4	5-12	5-20	70-85	50-65	50-65	45-65	25-30	4-7
	14-60	Bedrock			---	---	---	---	---	---	---	---
Elpedro-----	0-5	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	5-12	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	12-19	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	19-25	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	25-36	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	36-45	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	25-30	4-7
	45-60	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
59: Harvey-----	0-4	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	4-10	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	10-18	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	18-41	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	41-60	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
Ildefonso-----	0-2	Cobbly loam	CL	A-6	0	0-15	85-100	75-95	70-90	50-60	25-40	10-25
	2-8	Very gravelly loam	SC	A-4	0	0-20	80-100	40-60	40-55	40-50	20-30	7-10
	8-13	Very gravelly loam	SC	A-4	0	5-20	75-95	35-55	35-50	30-50	20-30	7-10
	13-32	Very cobbly sandy loam	GM	A-2-4	0	20-45	55-75	35-55	30-50	25-45	15-25	NP-4
	32-40	Very cobbly sandy loam	GM	A-2-4	0	20-50	50-70	35-55	30-50	25-45	15-25	NP-4
	40-60	Extremely cobbly sand	GW-GM	A-1-a	0	35-60	30-50	15-25	10-20	0-20	0-0	NP

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct.	Pct.					Pct.	
59: La Fonda-----	In.											
	0-3	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	3-7	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	7-14	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	14-26	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	26-42	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	42-60	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
63: Placitas-----												
	0-5	Gravelly loam	SC	A-2-4	0	0	100	60-80	45-60	15-35	20-30	5-20
	5-10	Very gravelly sandy loam	SM	A-1-b	0	0	100	50-70	30-50	10-30	10-25	NP-4
	10-27	Very gravelly sandy loam	SW-SM	A-1-b	0	0	100	35-55	15-35	0-20	10-25	NP-4
	27-60	Bedrock			---	---	---	---	---	---	---	---
64: Skyvillage-----												
	0-4	Fine sandy loam	SC-SM	A-4	0	0-5	95-100	90-100	75-85	35-50	20-30	4-7
	4-11	Fine sandy loam	SC-SM	A-4	0	0-5	95-100	85-100	75-85	35-50	20-30	4-7
	11-18	Sandy loam	SC-SM	A-2-4	0	0-5	95-100	90-100	60-80	25-45	20-30	4-7
	18-60	Bedrock			---	---	---	---	---	---	---	---
Ildefonso-----												
	0-3	Gravelly sandy loam	SC-SM	A-2-4	0-3	0-15	70-85	55-75	50-70	25-45	20-30	4-7
	3-14	Very gravelly sandy loam	SM	A-2-4	0-3	5-15	65-85	40-60	35-55	25-45	15-25	NP-4
	14-60	Very gravelly sandy loam	GM	A-2-4	0-3	10-25	40-60	35-55	30-50	25-45	15-25	NP-4
65: Ildefonso-----												
	0-6	Very gravelly sandy loam	GM	A-1-a	0-3	0-25	40-55	35-50	25-35	10-20	15-25	NP-4
	6-38	Very gravelly sandy loam	GM	A-1-b	0-3	0-25	40-60	35-55	25-40	10-30	15-25	NP-4
	38-60	Very gravelly loam, very gravelly sandy loam	GM	A-1-b	0-3	10-25	40-60	35-55	25-50	10-40	15-25	NP-4
Harvey-----												
	0-4	Loam	CL	A-6	0	0	95-100	90-100	85-100	50-60	25-40	10-25
	4-23	Loam	CL	A-6	0	0	95-100	90-100	85-100	50-60	25-40	10-25
	23-36	Loam	CL	A-6	0	0	90-100	85-95	80-90	50-60	25-40	10-25
	36-60	Sandy loam	SC-SM	A-2-4	0	0	95-100	90-100	60-80	25-45	20-30	4-7
66: Zia-----												
	0-4	Sandy loam	SC-SM	A-2-4	0	0	100	90-100	60-80	25-45	20-30	4-7
	4-60	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
67: Sandoval-----												
	0-2	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	2-11	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	11-60	Bedrock			---	---	---	---	---	---	---	---
Poley-----												
	0-3	Very cobbly loam	SC	A-2-4	0	15-35	65-85	35-55	30-50	20-40	15-30	5-15
	3-12	Clay loam	CL	A-6	0	0	100	80-100	80-90	70-90	35-50	15-25
	12-17	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	17-21	Clay loam	CL	A-6	0	0	100	80-100	80-90	70-90	35-50	15-25
	21-40	Clay loam	CL	A-6	0	0-5	95-100	80-100	80-90	70-90	35-50	15-25
	40-60	Very gravelly sandy loam	GM	A-2-4	0	25-50	50-70	50-70	30-50	20-40	10-25	NP-4
68: Penistaja-----												
	0-2	Loamy fine sand	SM	A-2-4	0	0	100	100	65-85	20-40	15-20	NP-5
	2-15	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	15-27	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	27-38	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	38-60	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
Querencia-----												
	0-2	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	2-40	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	40-60	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
71: Palon-----												
	0-6	Cobbly sandy loam	SC-SM	A-2-4	0-3	9-20	75-90	60-80	50-70	15-35	20-30	4-7
	6-27	Very cobbly sandy loam	SM	A-1-b	0-3	20-34	55-75	40-60	40-50	10-30	15-25	NP-4
	27-60	Extremely cobbly sandy loam	GW-GM	A-1-a	0-10	20-40	40-70	20-40	15-35	5-15	10-25	NP-4

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
72: Palon-----	0-2	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	---	---
	2-4	Very cobbly sandy loam	GM	A-2-4	0-15	20-35	50-70	45-65	35-55	20-40	15-25	NP-4
	4-10	Extremely cobbly sandy loam	GW-GM	A-1-a	10-30	25-50	30-50	20-35	15-35	5-15	15-25	NP-4
	10-32	Extremely cobbly sandy loam	GM	A-1-a	15-35	20-50	30-45	20-40	15-35	10-20	15-25	NP-4
	32-53	Very cobbly sandy loam	GM	A-1-b	10-25	15-40	40-60	35-55	30-50	15-35	15-25	NP-4
	53-60	Very cobbly sandy loam	GM	A-1-b	5-20	10-35	50-70	45-65	35-55	15-35	15-25	NP-4
74: Origo-----	0-7	Very cobbly sandy loam	SM	A-1-b	0-3	0-15	75-90	50-70	40-60	15-35	10-20	NP-4
	7-28	Extremely cobbly sandy loam	GM	A-1-b	0	30-55	45-65	25-45	20-40	10-30	10-20	NP-4
	28-60	Extremely cobbly sandy loam	GM	A-1-b	0-15	25-40	50-65	30-45	15-35	10-30	10-20	NP-4
Pavo-----	0-9	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	9-12	Sandy loam	SC-SM	A-2-4	0	0-10	90-100	85-95	60-80	25-45	20-30	4-7
	12-25	Sandy loam	SC-SM	A-2-4	0	0	100	80-100	60-80	25-45	20-30	4-7
	25-35	Sandy loam	SC-SM	A-2-4	0	0-5	100	90-100	60-80	25-45	20-30	4-7
	35-45	Fine sandy loam	SC-SM	A-4	0	0	100	90-100	75-85	35-50	20-30	4-7
	45-50	Gravelly clay loam	CL, SC	A-6	0	0	90-100	60-80	60-70	40-60	35-50	15-25
	50-60	Sandy loam	SC-SM	A-2-4	0	0	85-100	75-95	60-80	25-45	20-30	4-7
75: Origo-----	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	---	---
	1-6	Very cobbly sandy loam	GM	A-1-b	0-15	25-50	40-60	35-55	30-50	15-35	15-30	NP-4
	6-12	Very cobbly sandy loam	GM	A-1-b	0-15	20-50	40-60	35-55	25-45	15-35	15-30	NP-4
	12-32	Very cobbly sandy loam	GM	A-1-b	0-15	25-50	40-60	35-55	20-40	10-30	15-30	NP-4
	32-56	Very cobbly sandy loam	GM	A-1-b	0-15	25-50	40-60	40-60	30-50	10-30	15-30	NP-4
	56-60	Very cobbly loamy sand	GM	A-1-b	0-15	25-50	40-60	40-60	30-50	10-20	5-15	NP-4
82: Calaveras-----	0-2	Loam	SC	A-6	0	0-5	95-100	85-95	55-75	35-55	25-40	10-25
	2-6	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
	6-40	Very cobbly sandy loam	GP-GC	A-1-b	0-3	14-23	30-50	25-45	15-40	5-30	20-30	4-7
	40-60	Extremely cobbly coarse sandy loam	GC-GM	A-1-b	0-3	30-55	45-60	30-45	20-40	15-35	20-30	4-7
83: Calaveras-----	0-6	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	6-12	Sandy loam	SC-SM	A-4	0	0-5	95-100	85-95	55-75	35-55	20-30	4-7
	12-24	Very cobbly loam, very cobbly sandy loam	GC-GM	A-1-b	0-5	14-23	45-65	40-60	20-35	15-25	20-30	4-7
	24-60	Extremely cobbly coarse sandy loam, extremely cobbly loamy coarse sand	GC-GM	A-1-b	0-5	30-50	40-60	30-45	20-40	15-35	20-30	4-7
Rubble land----	0-60	Fragmental material	GW	A-1-a	40-60	20-40	0-15	0-5	0-5	0	0-0	NP

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct.	Pct.					Pct.	
85: Redondo-----	In.											
	0-2	Coarse sandy loam	SM	A-2-4	0	0	100	100	50-70	20-40	15-25	NP-4
	2-7	Coarse sandy loam	SM	A-2-4	0	0	100	100	50-70	20-40	15-25	NP-4
	7-15	Coarse sandy loam	SM	A-2-4	0	0-5	95-100	95-100	50-70	20-40	15-25	NP-4
	15-22	Coarse sandy loam	SM	A-2-4	0	0	100	95-100	50-70	20-40	15-25	NP-4
	22-29	Gravelly coarse sandy loam	SM	A-2-4	0	0	100	65-85	50-70	20-40	10-20	NP-4
	29-38	Very gravelly coarse sandy loam	SM	A-1-b	0-10	0-15	75-95	45-65	35-55	10-30	5-15	NP-4
	38-54	Extremely gravelly coarse sandy loam	SW-SM	A-1-a	0-15	0-15	70-90	10-30	0-20	0-10	5-15	NP-4
	54-60	Extremely cobbly coarse sandy loam	SW-SM	A-1-a	5-25	15-35	50-70	0-20	0-20	0-10	5-15	NP-4
86: Redondo-----												
	0-8	Cobbly coarse sandy loam	SM	A-2-4	0	10-20	80-90	70-80	50-70	20-40	15-25	NP-4
	8-13	Very cobbly coarse sandy loam	SM	A-2-4	0-5	10-30	70-80	50-70	40-60	20-40	15-25	NP-4
	13-34	Extremely cobbly coarse sandy loam	GW-GM	A-1-a	0-10	20-60	45-65	25-45	20-30	5-15	10-20	NP-4
	34-60	Extremely cobbly coarse sandy loam	GC-GM	A-1-a	0	40-80	25-45	20-40	15-25	5-15	10-20	NP-4
87: Redondo-----												
	0-6	Cobbly loam	CL, SC	A-4	0	10-20	80-90	70-90	60-80	40-60	20-30	5-15
	6-13	Very cobbly coarse sandy loam	SM	A-1-b	0	15-35	65-85	50-70	40-60	15-35	10-20	NP-4
	13-60	Very cobbly coarse sandy loam	SM	A-1-b	0	15-35	65-85	50-65	40-60	15-35	10-20	NP-4
Rubble land----	0-60	Fragmental material	GW	A-1-a	50-60	20-30	0-10	0-5	0-5	0	0-0	NP
88: Totavi-----												
	0-12	Sandy loam	SC-SM	A-2-4	0	0	95-100	80-100	60-80	25-45	20-30	4-7
	12-60	Loamy sand	SM	A-2-4	0	0	100	85-100	55-75	15-35	10-20	NP-4
Jemez-----												
	0-6	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	6-13	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	13-19	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	19-27	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	27-60	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
91: Zia-----												
	0-16	Sandy loam	SC-SM	A-2-4	0	0	100	90-100	60-80	25-45	20-30	4-7
	16-22	Loamy sand	SM	A-2-4	0	0	100	100	60-80	15-35	15-20	NP-4
	22-35	Sandy loam	SC-SM	A-2-4	0	0	100	90-100	60-80	25-45	20-30	4-7
	35-60	Fine sandy loam	SC-SM	A-4	0	0	98-100	85-100	75-85	35-50	20-30	4-7
92: Galisteo, moderately saline, sodic--												
	0-12	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	12-60	Clay	CH	A-7-6	0	0	100	100	95-100	70-90	50-60	25-35
93: Zia-----												
	0-8	Loamy sand	SM	A-2-4	0	0	100	90-100	60-80	15-35	15-20	NP-4
	8-60	Sandy loam	SC-SM	A-2-4	0	0	100	90-100	60-80	25-45	20-30	4-7
95: El Rancho-----												
	0-5	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	5-20	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	20-38	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	38-60	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct.	Pct.						
	In.											
97: El Rancho-----	0-8	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	8-60	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
100: Orejas-----	0-5	Very stony loam	GC	A-2-4	5-25	10-30	50-70	50-70	40-50	20-40	20-30	7-10
	5-15	Very cobbly clay loam	GC	A-2-6	0-15	15-40	50-70	50-70	30-40	25-35	30-40	10-15
	15-19	Very cobbly clay loam	GC	A-2-6	0	20-50	50-70	45-65	30-45	25-40	30-40	10-15
	19-60	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
101: Blancot-----	0-2	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	2-5	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	5-14	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	30-40	15-25
	14-23	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	23-40	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
	40-49	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	49-60	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
Lybrook-----	0-1	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	1-5	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	5-21	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	21-30	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	30-60	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
102: Sparham-----	0-7	Clay loam	CL	A-6	0	0	100	80-100	75-95	65-85	35-50	15-25
	7-29	Clay loam	CL	A-6	0	0	95-100	85-100	80-90	65-85	35-50	15-25
	29-60	Clay loam, silty clay loam	CL	A-6	0	0	100	90-100	85-95	75-95	35-45	15-25
104: Cochiti-----	0-7	Gravelly loam	CL	A-6	0	0-10	80-100	70-90	70-80	50-60	25-40	10-20
	7-12	Gravelly clay loam	CL	A-6	0	0-10	80-100	60-80	60-80	55-75	35-50	15-25
	12-20	Very gravelly clay	CH, SC	A-7-6	0	0-10	80-95	50-60	50-60	45-55	50-60	25-35
	20-29	Very gravelly clay loam	SC	A-6	0	0-10	80-95	50-60	50-60	40-50	35-50	15-25
	29-60	Very gravelly sandy loam	SC-SM	A-1-b	0	0-10	80-100	35-55	25-35	20-35	20-30	4-7
Montecito-----	0-3	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	3-9	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	9-15	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	15-22	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	22-37	Sandy loam, loam	SC-SM	A-2-4	0	0	90-100	85-100	60-80	25-45	20-30	4-7
	37-60	Gravelly sandy loam	SM	A-2-4	0	0	85-100	65-85	40-60	20-40	15-25	NP-4
105: Badland-----	0-60	Bedrock			---	---	---	---	---	---	---	
Menefee-----	0-4	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	4-10	Clay loam	CL	A-6	0	0	90-100	85-100	80-100	70-90	35-50	15-25
	10-60	Bedrock			---	---	---	---	---	---	---	---
106: Stumble-----	0-4	Very gravelly fine sandy loam	SM	A-1-b	0	0	80-100	45-65	35-55	15-35	15-25	NP-4
	4-10	Gravelly fine sandy loam	SC-SM	A-4	0	0	90-100	65-85	55-75	35-50	20-30	4-7
	10-24	Loamy sand	SM	A-2-4	0	0	100	85-100	60-80	20-40	10-20	NP-4
	24-60	Gravelly coarse sand	SW-SM	A-2-4, A-3	0	0	90-100	70-90	65-80	0-20	0-0	NP
Stumble, sandy--	0-4	Gravelly loamy sand	SM	A-1-b	0	0	85-100	65-80	30-50	10-15	15-20	NP-4
	4-18	Loamy sand	SM	A-2-4	0	0	90-100	80-95	50-65	10-20	15-20	NP-4
	18-60	Gravelly coarse sand, gravelly loamy sand	SW-SM	A-1-b	0	0	80-100	65-80	20-40	5-10	10-15	NP-4

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct.	Pct.					Pct.	
108: Embudo-----	In.											
	0-6	Gravelly sandy loam	SC-SM	A-2-4	0	0	80-100	65-85	60-80	25-45	20-30	4-7
	6-30	Sandy loam	SC-SM	A-2-4	0	0	90-100	85-90	60-80	25-45	20-30	4-7
	30-60	Loamy sand	SC-SM	A-2-4	0	0	90-100	85-90	55-65	15-35	20-30	4-7
109: Embudo-----												
	0-4	Gravelly sandy loam	SC-SM	A-2-4	0	0	90-100	70-90	60-80	25-45	20-30	4-7
	4-12	Gravelly fine sandy loam	SC-SM	A-4	0	0	90-100	75-95	75-85	35-50	20-30	4-7
	12-30	Gravelly coarse sandy loam	SC-SM	A-2-4	0	0	85-95	70-90	60-80	15-35	20-30	4-7
	30-60	Gravelly loamy coarse sand	SM	A-2-4	0	0	90-100	60-80	55-65	10-20	10-20	NP-4
Tijeras-----												
	0-4	Gravelly fine sandy loam	SM	A-2-4	0	0	100	70-90	50-70	30-40	15-25	NP-4
	4-10	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	10-20	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	20-26	Gravelly sandy loam	SM	A-2-4	0	0	100	70-90	50-70	25-35	15-25	NP-4
	26-60	Very gravelly coarse sandy loam	SM	A-2-4	0	0	80-100	40-60	35-55	5-25	15-25	NP-4
110: Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
Saïdo-----												
	0-5	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	25-30	4-7
	5-9	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	25-30	4-7
	9-15	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	25-30	4-7
	15-25	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	25-30	4-7
	25-60	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
111: Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
Zia-----												
	0-5	Sandy loam	SC-SM	A-2-4	0	0	100	95-100	60-80	25-45	20-30	4-7
	5-60	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
112: Tijeras-----												
	0-3	Gravelly fine sandy loam	SC-SM	A-4	0	0-10	85-100	70-85	60-80	30-50	20-30	4-7
	3-14	Sandy clay loam	SC	A-6	0	0	95-100	80-95	70-90	30-50	25-35	10-20
	14-60	Gravelly sandy loam	SC-SM	A-2-4	0	0	85-100	60-80	40-60	25-45	20-30	4-7
114: San Mateo-----												
	0-7	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
	7-60	Stratified sandy loam to loam to clay loam to silty clay loam	CL, SC	A-6	0	0	100	90-100	80-100	40-60	25-40	10-25
Zia-----												
	0-3	Fine sandy loam	SC-SM	A-4	0	0	100	90-100	75-85	35-50	20-30	4-7
	3-60	Fine sandy loam	SC-SM	A-4	0	0	100	95-100	75-85	35-50	20-30	4-7
120: Pinavetes-----												
	0-10	Loamy sand	SM	A-2	0	0	100	100	60-80	15-35	15-20	NP-4
	10-35	Sand	SW-SM	A-3	0	0	100	100	65-80	0-20	0-0	NP
	35-60	Sand	SW-SM	A-3	0	0	100	85-100	65-80	0-20	0-0	NP
124: Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
129: Menefee-----												
	0-5	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	5-10	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	10-17	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	17-60	Bedrock			---	---	---	---	---	---	---	---
130: Pinavetes-----												
	0-2	Loamy sand	SM	A-2-4	0	0	100	100	60-80	10-30	15-20	NP-4
	2-60	Loamy sand	SM	A-2-4	0	0	100	100	60-80	10-30	15-20	NP-4
Galisteo, moderately saline, sodic--												
	0-2	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	2-60	Clay	CH	A-7-6	0	0	100	100	95-100	70-90	50-60	25-35

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct.	Pct.					Pct.	
142: Grieta-----	In.											
	0-3	Fine sandy loam	SC-SM	A-4	0	0	100	90-100	75-85	35-50	20-30	4-7
	3-11	Fine sandy loam	SC-SM	A-4	0	0	90-100	85-100	75-85	35-50	20-30	4-7
	11-34	Sandy clay loam	SC	A-6	0	0	100	90-100	75-90	40-50	25-35	10-20
	34-48	Sandy clay loam	SC	A-6	0	0	90-100	90-100	75-90	40-50	25-35	10-20
	48-60	Loamy sand	SM	A-2-4	0	0	90-100	90-100	60-80	15-35	10-20	NP-4
143: Clovis-----												
	0-3	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	3-7	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	7-12	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	12-22	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	22-34	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	34-60	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
145: Grieta-----												
	0-7	Loamy fine sand	SM	A-2-4	0	0	100	100	65-85	20-40	15-20	NP-4
	7-14	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-25
	14-21	Sandy clay loam	SC	A-6	0	0	90-100	90-100	75-90	40-50	25-35	10-25
	21-38	Coarse sandy loam	SC-SM	A-2-4	0	0	90-100	85-100	55-75	20-40	15-30	4-7
	38-50	Coarse sandy loam	SC-SM	A-2-4	0	0	100	95-100	55-75	20-40	15-30	4-7
	50-60	Coarse sandy loam	SC-SM	A-2-4	0	0	100	95-100	55-75	20-40	15-30	4-7
Sheppard-----												
	0-5	Loamy fine sand	SM	A-2-4	0	0	100	100	65-85	20-40	5-15	NP-4
	5-27	Loamy fine sand	SM	A-2-4	0	0	100	100	65-85	20-40	5-15	NP-4
	27-60	Loamy fine sand	SM	A-2-4	0	0	100	100	65-85	20-40	5-15	NP-4
146: Sedmar-----												
	0-3	Loamy sand	SM	A-2-4	0	0	100	100	60-80	20-40	5-15	NP-4
	3-13	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
	13-18	Loamy sand	SM	A-2-4	0	0	100	100	60-80	20-40	5-15	NP-4
	18-60	Bedrock			---	---	---	---	---	---	---	---
150: Doakum-----												
	0-5	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	5-11	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	11-17	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	17-24	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	24-31	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	31-44	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	44-60	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
Betonnies-----												
	0-2	Fine sandy loam	SC-SM	A-4	0	0	90-100	80-95	75-85	35-50	20-30	4-7
	2-4	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	4-12	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	12-18	Sandy loam	SC-SM	A-2-4	0	0	95-100	80-95	60-80	25-45	20-30	4-7
	18-34	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
	34-60	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
162: Hackroy-----												
	0-3	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
	3-13	Clay	CH	A-7-6	0	0	95-100	95-100	85-95	70-90	50-60	25-35
	13-60	Bedrock			---	---	---	---	---	---	---	---
Nyjack-----												
	0-3	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	3-13	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	13-24	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	24-39	Gravelly sandy loam	SC-SM	A-2-4	0	0	75-95	65-85	60-80	25-45	2-30	4-7
	39-60	Bedrock			---	---	---	---	---	---	---	---
163: Jemez-----												
	0-3	Loam	CL	A-6	0	0	100	90-100	80-100	50-60	25-40	10-25
	3-24	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	24-39	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	39-60	Bedrock			---	---	---	---	---	---	---	---
170: San Mateo-----												
	0-2	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	2-10	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	10-23	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	23-32	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	32-54	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	54-60	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
180: Cuncelor-----	0-2	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	2-7	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	30-50	20-30	4-7
	7-37	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	30-50	20-30	4-7
	37-40	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	40-60	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
Eslando-----	0-3	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	3-10	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	10-60	Bedrock			---	---	---	---	---	---	---	---
Mespun-----	0-6	Loamy fine sand	SM	A-2-4	0	0	100	100	65-85	20-40	15-20	NP-4
	6-60	Loamy sand	SM	A-2-4	0	0	100	100	60-80	15-35	15-20	NP-4
183: Sheppard-----	0-4	Loamy fine sand	SM	A-2-4	0	0	100	100	65-85	20-40	15-20	NP-4
	4-45	Loamy fine sand	SM	A-2-4	0	0	100	100	65-85	20-40	15-20	NP-4
	45-60	Loamy fine sand	SM	A-2-4	0	0	100	100	65-85	20-40	15-20	NP-4
185: Frijoles-----	0-3	Very fine sandy loam	CL-ML	A-4	0	0	100	100	80-100	45-60	20-30	4-7
	3-8	Very gravelly clay loam	CL	A-6	0	0	90-100	55-75	50-70	45-65	35-50	15-25
	8-13	Very gravelly clay loam	CL, SC	A-6	0	0	80-100	45-65	45-55	40-55	35-50	15-25
	13-20	Extremely gravelly sandy loam	SC-SM	A-1-b	0	0	60-80	20-40	20-30	15-25	20-30	4-7
	20-60	Fragmental material	SP	A-1-a	0	0	80-90	0-10	0-5	0-5	0-10	NP
190: Zia-----	0-5	Sandy loam	SC-SM	A-2-4	0	0	100	85-100	60-80	25-45	20-30	4-7
	5-28	Sandy loam	SC-SM	A-2-4	0	0	100	95-100	60-80	25-45	20-30	4-7
	28-60	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
Skyvillage-----	0-2	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	2-11	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	11-16	Fine sandy loam	SC-SM	A-4	0	0	100	85-100	75-85	35-50	20-30	4-7
	16-60	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
191: Sheppard-----	0-3	Loamy fine sand	SM	A-2-4	0	0	100	100	65-85	20-40	15-20	NP-4
	3-27	Loamy fine sand	SM	A-2-4	0	0	100	100	65-85	20-40	15-20	NP-4
	27-60	Loamy fine sand	SM	A-2-4	0	0	100	100	65-85	20-40	15-20	NP-4
200: Sedillo-----	0-4	Very cobbly sandy loam	SM	A-1-b	3-6	14-17	70-90	50-70	25-45	10-30	15-25	NP-4
	4-13	Very gravelly sandy clay loam	SC	A-2-4	0-3	5-15	80-100	50-70	30-50	20-40	20-30	5-15
	13-60	Extremely gravelly coarse sandy loam	SW-SM	A-1-a	0-10	10-20	70-90	30-50	10-20	5-15	15-25	NP-4
201: Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
Sedgran-----	0-4	Extremely gravelly loamy coarse sand	SW-SM	A-1-a	0	10-35	70-90	25-45	10-30	0-10	10-20	NP-4
	4-13	Very gravelly loamy coarse sand	SW-SM	A-1-b	0	0-10	90-100	45-65	20-40	5-20	10-20	NP-4
	13-60	Bedrock			---	---	---	---	---	---	---	---
206: Pinitos-----	0-4	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	4-10	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	10-27	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	27-39	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	39-60	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
207: Penistaja-----	0-3	Very fine sandy loam	CL-ML, SC-SM	A-4	0	0	100	100	80-100	40-60	20-30	4-7
	3-29	Sandy clay loam, clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	29-60	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
Zia-----	0-5	Fine sandy loam	SC-SM	A-4	0	0	100	90-100	75-85	35-50	20-30	4-7
	5-60	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
208: Sedillo-----	0-2	Very gravelly fine sandy loam	SM	A-1-a	0	0	100	35-55	20-40	10-20	10-20	NP-4
	2-8	Very gravelly sandy clay loam	SC	A-2-4	0	0	100	40-60	30-40	20-30	15-30	5-15
	8-12	Very gravelly sandy loam	SM	A-1-a	0	0	100	40-60	20-40	10-20	10-20	NP-4
	12-60	Extremely gravelly sandy loam	SW-SM	A-1-a	0	0	100	30-50	15-35	5-15	10-20	NP-4
210: Ildefonso-----	0-3	Very stony loam	GC	A-6	35-50	0-10	40-65	35-55	35-50	35-45	20-30	4-20
	3-9	Very stony loam	GC	A-6	35-50	0-5	40-60	40-55	35-55	30-50	20-30	4-20
	9-60	Very stony loam	GC	A-6	35-50	5-15	45-55	40-55	40-50	35-50	20-30	4-20
211: Zia-----	0-5	Sandy loam	SC-SM	A-2-4	0	0	100	90-100	60-80	25-45	20-30	4-7
	5-14	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
	14-33	Sandy loam	SC-SM	A-2-4	0	0	100	95-100	60-80	25-45	20-30	4-7
	33-46	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	46-60	Sandy loam	SC-SM	A-2-4	0	0	100	90-100	60-80	25-45	20-30	4-7
Clovis-----	0-5	Fine sandy loam	SC-SM	A-4	0	0	100	100	70-90	40-60	20-30	4-7
	5-60	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
213: Pinavetes-----	0-7	Sand	SW-SM	A-2-4, A-3	0	0	100	100	50-70	0-20	0-0	NP
	7-60	Stratified sand to loamy sand	SW-SM	A-2-4, A-3	0	0	100	100	71-76	0-20	0-0	NP
Rock outcrop---	0-60	Bedrock			---	---	---	---	---	---	---	---
215: Ess-----	0-7	Very cobbly sandy loam	GC-GM	A-2-4	0-10	20-40	50-70	40-60	35-55	25-45	20-30	4-7
	7-15	Very cobbly sandy loam	GC-GM	A-2-4	0-10	20-35	55-75	45-65	40-55	25-45	20-30	4-7
	15-29	Very cobbly sandy clay loam	GC	A-6	0-15	15-35	50-70	40-60	40-50	35-45	25-35	10-20
	29-60	Very cobbly loam	GC	A-6	0-10	10-30	60-80	35-55	35-50	30-50	25-40	10-25
Rock outcrop---	0-60	Bedrock			---	---	---	---	---	---	---	---
217: Witt-----	0-2	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	2-9	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	9-60	Stratified very fine sandy loam to loam	CL, SC	A-6	0	0	100	100	85-100	40-60	25-40	10-25
218: Ildefonso-----	0-4	Very cobbly loam	GC	A-6	0-10	25-45	50-70	45-65	40-60	35-55	20-35	10-20
	4-8	Very cobbly loam	GC	A-6	0-10	30-50	45-65	40-60	40-60	30-50	20-35	10-20
	8-60	Very cobbly sandy loam	GC-GM	A-2-4	0-10	25-45	50-70	45-60	25-35	25-35	15-25	4-7
220: Rock outcrop---	0-60	Bedrock			---	---	---	---	---	---	---	---
Vessilla-----	0-2	Sandy loam	SC-SM	A-2-4	0	0-10	100	100	60-80	25-45	20-30	4-7
	2-10	Sandy loam	SC-SM	A-2-4	0	0-10	90-100	85-100	50-70	20-40	20-30	4-7
	10-60	Bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct.	Pct.					Pct.	
220: Menefee-----	0-2	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	2-10	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	10-60	Bedrock			---	---	---	---	---	---	---	---
226: Galisteo, moderately saline, sodic--	0-10	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	10-60	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
227: Hagerman-----	0-4	Fine sandy loam	SC-SM	A-4	0	0	95-100	90-100	75-85	35-50	20-30	4-7
	4-34	Clay loam	CL	A-6	0	0	95-100	90-100	85-95	70-90	35-50	15-25
	34-60	Bedrock			---	---	---	---	---	---	---	---
Bond-----	0-4	Loamy fine sand	SM	A-2-4	0	0-10	90-100	85-100	50-85	15-45	15-20	NP-4
	4-12	Sandy clay loam	CL	A-6	0	0-10	90-100	90-100	75-90	50-70	25-35	10-20
	12-60	Bedrock			---	---	---	---	---	---	---	---
228: Winona-----	0-2	Very channery fine sandy loam	SW-SM	A-1-a	0	10-20	60-80	35-55	15-35	5-15	10-20	NP-4
	2-13	Very channery loam	SC	A-2-4	0	0	70-90	45-65	35-45	15-35	15-35	5-15
	13-60	Bedrock			---	---	---	---	---	---	---	---
230: Skyvillage-----	0-6	Sandy loam	SC-SM	A-2-4	0	0-5	95-100	85-100	60-80	25-45	20-30	4-7
	6-11	Sandy loam	SC-SM	A-2-4	0	0-5	95-100	85-100	60-80	25-45	20-30	4-7
	11-60	Bedrock			---	---	---	---	---	---	---	---
Sandoval-----	0-2	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	2-10	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	10-60	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
231: Querencia-----	0-3	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	3-21	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	21-60	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
234: Querencia-----	0-3	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	3-25	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	25-60	Stratified loam to fine sandy loam	SC	A-4	0	0	100	100	80-90	40-50	20-40	5-15
Zia-----	0-11	Sandy loam	SC-SM	A-2-4	0	0	100	90-100	60-80	25-45	20-30	4-7
	11-60	Sandy loam	SC-SM	A-2-4	0	0	100	95-100	60-80	25-45	20-30	4-7
235: Sandoval-----	0-2	Fine sandy loam	SC-SM	A-4	0	0	100	95-100	75-85	35-50	20-30	4-7
	2-16	Clay loam	CL	A-6	0	0	95-100	90-100	85-95	70-90	35-50	15-25
	16-19	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	19-60	Bedrock			---	---	---	---	---	---	---	---
236: Sparank, moderately saline, sodic--	0-2	Clay loam	CL	A-6	0	0	100	90-100	85-95	70-90	35-50	15-25
	2-10	Silty clay	CL	A-7-6	0	0	100	95-100	90-100	75-95	40-50	15-25
	10-24	Silty clay	CL	A-7-6	0	0	100	95-100	90-100	75-95	40-50	15-25
	24-40	Silty clay loam	CL	A-6	0	0	100	90-100	85-95	70-90	35-45	15-25
	40-44	Silty clay	CL	A-7-6	0	0	100	95-100	90-100	75-95	40-50	15-25
	44-60	Silty clay	CL	A-7-6	0	0	100	90-100	85-95	75-95	40-50	15-25
237: Sparank-----	0-4	Silty clay loam	CL	A-6	0	0	100	90-100	90-100	75-90	35-45	15-25
	4-60	Silty clay loam	CL	A-6	0	0	100	95-100	90-100	75-90	35-45	15-25
240: Penistaja-----	0-5	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	5-14	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	14-29	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	29-60	Stratified sandy clay loam to fine sandy loam to loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
240: Hagerman-----	0-2	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	2-9	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	9-24	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	24-60	Bedrock			---	---	---	---	---	---	---	---
250: Pinavetes-----	0-4	Loamy fine sand	SM	A-2-4	0	0	100	100	65-85	20-40	15-20	NP-4
	4-60	Loamy sand	SM	A-2-4	0	0	100	100	55-75	15-35	15-20	NP-4
262: Pastura-----	0-3	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	3-10	Gravelly loam	CL, SC	A-6	0	0	80-100	75-90	70-90	45-60	25-40	10-25
	10-14	Gravelly loam	CL	A-6	0	0	90-100	75-95	65-85	50-60	25-40	10-25
	14-60	Cemented material			---	---	---	---	---	---	---	---
270: Blancot-----	0-2	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	2-12	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	12-21	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	21-60	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
Councilor-----	0-2	Fine sandy loam	SC-SM	A-2-4	0	0	100	100	60-70	30-40	20-30	4-7
	2-60	Fine sandy loam, sandy loam	SC-SM	A-4	0	0	100	90-100	65-90	30-50	20-30	4-7
Tsosie-----	0-2	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	2-10	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	10-20	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	20-26	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	26-36	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	36-44	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
	44-55	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
	55-60	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
281: Carjo-----	0-4	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	4-12	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	12-20	Clay	CH	A-7-6	0	0	100	100	95-100	70-90	50-60	25-35
	20-25	Very fine sandy loam	CL-ML, SC-SM	A-4	0	0	100	100	80-90	40-60	20-30	4-7
	25-60	Bedrock			---	---	---	---	---	---	---	---
282: Tocal-----	0-5	Very fine sandy loam	CL-ML, SC-SM	A-4	0	0	100	100	80-90	40-60	20-30	4-7
	5-8	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	8-11	Clay	CH	A-7-6	0	0	100	100	95-100	70-90	50-60	25-35
	11-14	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	25-30	4-7
	14-60	Bedrock			---	---	---	---	---	---	---	---
283: Mirand-----	0-2	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	---	---
	2-6	Loam	CL	A-6	0	0	95-100	90-100	85-100	50-60	25-40	10-25
	6-11	Clay loam	CL	A-6	0	0	90-100	85-95	80-95	70-90	35-50	15-25
	11-17	Gravelly clay loam	CL	A-6	0	0	90-100	80-95	75-90	65-85	35-50	15-25
	17-27	Clay loam	CL	A-6	0	0	90-100	85-95	80-90	70-90	35-50	15-25
	27-47	Clay	CH	A-7-6	0	0	90-100	80-100	80-95	70-90	50-60	25-35
	47-60	Clay loam	CL	A-6	0	0	95-100	85-100	80-95	70-90	35-50	15-25
Alanos-----	0-6	Cobbly loam	GC	A-6	0-5	15-30	65-85	60-70	40-60	25-50	25-40	10-25
	6-9	Cobbly loam	GC	A-6	0-5	15-30	65-85	60-70	40-60	25-50	25-40	10-25
	9-30	Extremely gravelly clay loam	GC, GP-GC	A-2-6	0-10	5-20	15-45	15-35	10-30	5-15	35-50	15-25
	30-60	Very gravelly clay	GC	A-7-6	0-10	0-10	55-75	50-60	40-60	30-50	50-60	25-35
290: Alanos-----	0-4	Loam	CL	A-6	0	0	90-100	85-95	80-90	50-60	25-40	10-25
	4-9	Loam	CL	A-6	0	0	90-100	85-95	80-90	50-60	25-40	10-25
	9-18	Very gravelly loam	SC	A-2-6	0	0	65-85	35-55	30-40	30-40	25-40	10-25
	18-26	Extremely gravelly clay	GC	A-2-7	0	10-30	35-55	15-35	10-30	10-20	50-60	25-35
	26-60	Extremely gravelly clay	GC	A-2-7	0	10-30	35-55	15-35	10-30	10-20	50-60	25-35

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct.	Pct.					Pct.	
290: Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
300: Waumac-----	0-3	Loamy sand	SM	A-2-4	0	0	100	100	60-80	20-40	15-20	NP-4
	3-31	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	31-60	Gravelly fine sandy loam	SC-SM	A-2-4	0	0	100	70-90	40-60	20-40	20-30	4-7
Bamac-----	0-6	Gravelly loamy sand	SM	A-1-b	0	0-10	60-80	55-75	40-60	10-25	15-20	NP-4
	6-60	Stratified very gravelly coarse sand to very gravelly loamy sand	GW-GM	A-1	0	0-8	43-66	40-65	32-54	9-17	15-20	NP-4
301: Vastine-----	0-4	Silt loam	ML	A-6	0	0	100	100	89-99	73-83	31-45	10-17
	4-11	Loam	CL	A-6	0	0	100	100	84-94	60-70	26-41	10-17
	11-24	Loam	CL	A-6	0	0	76-100	75-100	63-94	45-70	26-39	10-17
	24-60	Very gravelly loamy sand	GP-GC	A-1	0	0-1	31-54	28-52	22-43	6-13	16-23	2-6
Jarola-----	0-9	Silt loam	CL, ML	A-6	0	0	100	100	89-99	73-83	28-43	10-17
	9-11	Silt loam	CL	A-6	0	0	100	100	89-99	73-83	27-40	10-17
	11-17	Silty clay loam	CL	A-6, A-7	0	0	100	100	96-100	85-92	38-47	19-25
	17-21	Clay loam	CL	A-6, A-7	0	0	100	100	88-95	68-75	37-46	19-25
	21-42	Gravelly sandy clay loam	SC	A-6	0	0	63-100	62-100	50-92	27-55	31-42	13-21
	42-60	Very gravelly sandy loam	SM, GC-GM	A-2-4, A-1-b	0	0	39-59	36-57	26-47	13-26	16-27	2-10
302: Tranquilar-----	0-4	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	4-8	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	8-11	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	11-13	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	13-20	Clay	CH	A-7-6	0	0	100	100	95-100	70-90	50-60	25-35
	20-34	Clay	CH	A-7-6	0	0	100	100	95-100	70-90	50-60	25-35
	34-42	Clay	CH	A-7-6	0	0	100	100	95-100	70-90	50-60	25-35
	42-50	Clay	CH	A-7-6	0	0	100	100	95-100	70-90	50-60	25-35
	50-60	Clay	CH	A-7-6	0	0	100	100	95-100	70-90	50-60	25-35
Jarmillo-----	0-4	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	4-13	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	13-20	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	20-26	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	26-36	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	36-41	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	41-51	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	51-60	Very fine sandy loam	CL-ML	A-4	0	0	100	100	80-90	40-60	20-30	4-7
304: Cosey-----	0-9	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	25-30	4-7
	9-15	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	25-30	4-7
	15-28	Gravelly loam	CL	A-6	0	0-15	80-100	60-80	55-65	55-65	25-40	10-25
	28-34	Very gravelly sandy clay loam	SC	A-2-6	0	0-15	80-100	35-55	30-50	15-35	25-35	10-20
	34-60	Extremely cobbly clay loam	GC	A-2-6	0	35-60	50-70	25-35	25-35	25-35	35-50	15-25
Jarmillo-----	0-17	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	25-30	4-7
	17-33	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
	33-60	Sandy loam, loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
307: Flugle-----	0-3	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	3-7	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	7-12	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	12-19	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	19-60	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
Waumac-----	0-3	Loamy sand	SM	A-2-4	0	0	95-100	95-100	65-85	20-40	15-20	NP-4
	3-60	Stratified fine sandy loam to sandy loam	SC-SM	A-4	0	0	92-100	92-100	65-85	30-50	20-30	4-7

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct.	Pct.					Pct.	
308: Cajete-----	In.											
	0-7	Gravelly loam	CL	A-6	0	0	80-100	70-90	70-80	50-60	25-40	10-25
	7-15	Gravelly loam	CL	A-6	0	0	80-100	70-90	70-80	50-60	25-40	10-25
	15-33	Very gravelly sandy loam	SC-SM	A-2-4	0	0	75-95	50-70	45-55	25-45	20-30	4-7
	33-45	Very gravelly sand	SW-SM	A-1-b	0	0	70-90	40-60	30-50	0-15	0-0	NP
	45-49	Extremely gravelly sand	SW-SM	A-1-a	0	0	70-90	30-50	10-30	0-15	0-0	NP
	49-60	Very gravelly sand	SW-SM	A-1-a	0	0	80-90	40-60	10-30	0-15	0-0	NP
311: Cosey-----												
	0-13	Silt loam	ML	A-4	0-2	0-10	90-100	90-100	80-90	65-80	25-30	4-7
	13-24	Gravelly loam	SC	A-2-6	0-2	0-10	65-75	60-70	50-60	25-45	25-40	10-25
	24-60	Extremely cobbly clay loam	GC	A-2-6	0-15	35-65	30-45	30-45	25-45	15-35	35-50	15-25
Tranquilar-----												
	0-14	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	25-30	4-7
	14-20	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	25-30	4-7
	20-42	Clay	CH	A-7-6	0	0	100	100	95-100	70-90	50-60	25-35
	42-60	Clay	CH	A-7-6	0	0	100	100	95-100	70-90	50-60	25-35
Calaveras-----												
	0-4	Silt loam	ML	A-4	0	0	100	90-100	90-100	70-90	25-30	4-7
	4-11	Silt loam	ML	A-4	0	0	100	85-100	85-95	70-85	25-30	4-7
	11-17	Gravelly silt loam	ML	A-4	0-10	0	90-100	65-85	60-80	55-75	25-30	4-7
	17-30	Very cobbly loam	SC	A-6	0-10	10-30	65-85	45-65	40-60	35-55	25-40	10-25
	30-39	Extremely cobbly coarse sandy loam	GC-GM	A-2-4	0-10	15-40	45-65	30-40	25-35	25-35	20-30	4-7
	39-60	Extremely cobbly loamy sand	GM	A-1-b	0-15	15-40	50-70	35-45	20-40	15-35	15-20	NP-4
312: Royosa-----												
	0-5	Sand	SW-SM	A-2-4, A-3	0	0	100	100	65-80	0-20	0-0	NP
	5-16	Sand	SW-SM	A-2-4, A-3	0	0	100	100	65-80	0-20	0-0	NP
	16-60	Loamy sand	SM	A-2-4	0	0	100	100	60-80	10-30	10-20	NP-4
314: Fragua-----												
	0-3	Loamy sand	SM	A-2-4	0	0	100	100	60-80	15-35	10-20	NP-4
	3-8	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
	8-24	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
	24-60	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
Waumac-----												
	0-3	Loamy fine sand	SM	A-2-4	0	0	100	95-100	65-85	20-40	15-20	NP-4
	3-60	Fine sandy loam	SC-SM	A-4	0	0	100	95-100	75-85	35-50	20-30	4-7
Royosa-----												
	0-7	Fine sand	SW-SM	A-2-4, A-3	0	0	100	100	65-80	0-20	0-0	NP
	7-60	Fine sand	SW-SM	A-2-4, A-3	0	0	100	100	65-80	0-20	0-0	NP
317: Elpedro-----												
	0-2	Loam	CL	A-6	0	0	95-100	90-100	85-95	50-60	25-40	10-25
	2-22	Silty clay loam	CL	A-6	0	0	95-100	90-100	90-100	75-90	35-45	15-25
	22-60	Loam	CL	A-6	0	0	95-100	90-100	85-95	50-60	25-40	10-25
319: Bamac-----												
	0-4	Very gravelly loamy sand	GM	A-1-b	0	0	40-50	35-50	25-45	15-25	10-20	NP-4
	4-10	Loamy sand	SM	A-2-4	0	0-3	90-100	85-95	50-65	5-20	10-20	NP-4
	10-21	Very gravelly loamy coarse sand	GC-GM, GM	A-1-b	0	0	40-50	35-45	30-40	5-25	10-20	NP-4
	21-37	Very gravelly loamy coarse sand	SM	A-1-b	0	0	65-85	35-55	30-50	15-25	10-20	NP-4
	37-60	Very gravelly loamy coarse sand	SM	A-1-b	0	0	65-85	40-60	30-50	15-25	10-20	NP-4
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
320: Sparham-----												
	0-9	Silt loam	ML	A-4	0	0	100	95-100	90-100	70-90	25-30	4-7
	9-32	Silty clay	CL	A-7-6	0	0	95-100	90-100	85-95	75-95	40-50	15-25
	32-60	Silty clay	CL	A-7-6	0	0	90-100	80-95	75-95	65-85	40-50	15-25
321: Waumac-----												
	0-3	Loamy fine sand	SM	A-2-4	0	0	100	100	65-85	20-40	15-20	NP-4
	3-60	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct.	Pct.					Pct.	
321: Royosa-----	0-12	Fine sand	SW-SM	A-2-4	0	0	100	100	65-80	0-20	0-0	NP
	12-60	Fine sand	SW-SM	A-2-4	0	0	100	100	65-80	0-20	0-0	NP
322: Fragua-----	0-3	Very cobbly fine sandy loam	GC-GM	A-4	0-5	20-30	60-80	45-65	40-60	35-50	20-30	4-7
	3-16	Sandy loam, fine sandy loam, very fine sandy loam	SC-SM	A-4	0	0-5	95-100	90-100	75-85	35-50	20-30	4-7
	16-45	Loamy fine sand	SM	A-2-4	0	0-5	95-100	90-100	65-85	20-40	10-20	NP-4
	45-60	Bedrock			---	---	---	---	---	---	---	---
324: Rock outcrop---	0-60	Bedrock			---	---	---	---	---	---	---	---
Atarque-----	0-3	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
	3-9	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	9-14	Sandy clay loam	SC	A-6	0	0	100	100	75-90	40-50	25-35	10-20
	14-60	Bedrock			---	---	---	---	---	---	---	---
Menefee-----	0-2	Gravelly loam	CL	A-6	0	0	90-100	80-90	70-90	50-60	25-40	10-25
	2-9	Clay loam	CL	A-6	0	0	95-100	90-100	85-100	70-90	35-50	15-25
	9-60	Bedrock			---	---	---	---	---	---	---	---
325: Rock outcrop---	0-60	Bedrock			---	---	---	---	---	---	---	---
Espiritu-----	0-2	Very gravelly fine sandy loam	SC-SM	A-2-4	0-5	5-15	65-75	50-65	30-40	25-35	20-30	4-7
	2-20	Very gravelly sandy clay loam	GC	A-6	0-5	10-30	55-75	40-55	40-50	35-45	25-35	10-20
	20-60	Very gravelly loam	SC	A-6	0-5	10-30	65-85	40-50	35-45	30-45	25-40	10-25
Vessilla-----	0-1	Very gravelly sandy loam	SM	A-1-b	0	0-10	80-100	50-70	40-60	10-30	15-25	NP-4
	1-10	Gravelly loam	CL, SC	A-4	0	0-10	85-100	60-80	50-70	40-60	20-35	4-15
	10-60	Bedrock			---	---	---	---	---	---	---	---
342: Waumac-----	0-5	Loamy fine sand	SM	A-2-4	0	0	100	100	65-85	20-40	15-20	NP-4
	5-60	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
Vessilla-----	0-3	Fine sandy loam	SC-SM	A-2-4	0	0-5	95-100	85-95	70-80	30-40	20-30	4-7
	3-13	Fine sandy loam	SC-SM	A-2-4	0	0-5	95-100	85-95	60-80	25-40	20-30	4-7
	13-60	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop---	0-60	Bedrock			---	---	---	---	---	---	---	---
345: Espiritu-----	0-6	Very gravelly fine sandy loam	SC-SM	A-4	0	0-20	75-90	50-70	40-50	35-45	20-30	4-7
	6-15	Very gravelly sandy clay loam	SC	A-6	0	0-20	80-100	50-70	45-55	35-45	25-35	10-20
	15-22	Very gravelly sandy clay loam	SC	A-6	0	0-20	70-90	45-60	45-55	35-45	25-35	10-20
	22-29	Very cobbly sandy clay loam	GC	A-6	0	15-30	60-70	45-55	40-50	35-45	25-35	10-20
	29-38	Very cobbly sandy clay loam	GC	A-6	0	15-30	60-80	40-60	40-60	35-45	25-35	10-20
	38-46	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	46-60	Very gravelly sandy loam	SC-SM	A-2-4	0	0-5	75-95	55-65	55-65	25-45	20-30	4-7
Bamac-----	0-3	Very gravelly loamy sand	GM	A-1-b	0	0-10	45-55	40-50	35-45	15-25	10-20	NP-4
	3-30	Very gravelly loamy sand	GM, SW-SM	A-1-b	0	0-5	55-65	50-55	30-50	5-15	10-20	NP-4
	30-60	Stratified very gravelly loamy sand to loamy sand	SM	A-1-a	0	0-9	70-90	35-55	20-35	5-25	10-20	NP-4

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquidity limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches						
					4	10	40	200				
	In.				Pct.	Pct.					Pct.	
346: Espiritu, cobbly	0-2	Extremely cobbly sandy loam	GC-GM	A-1-b	10-20	45-60	20-50	15-45	15-25	10-20	20-30	4-7
	2-24	Very gravelly sandy clay loam	SC	A-6	0-3	10-30	65-85	45-55	40-50	35-45	25-35	10-20
	24-36	Extremely gravelly sandy loam	GC-GM	A-2-4	0-3	15-30	50-70	30-50	30-45	25-45	20-30	4-7
	36-60	Very gravelly loamy sand	GM	A-2-4	0-3	15-30	55-75	35-55	30-50	20-40	15-20	NP-4
Bamac-----	0-3	Very gravelly loamy sand	GM	A-1-b	0	0-5	45-55	40-50	35-50	15-25	10-20	NP-4
	3-30	Very gravelly coarse sand, very gravelly loamy sand, very gravelly loamy coarse sand	GW-GM	A-1-b	0	0-5	45-55	40-50	20-40	5-15	10-20	NP-4
	30-45	Loamy sand	SM	A-2-4	0	0	100	100	60-80	20-40	10-20	NP-4
	45-60	Very gravelly loamy sand	GM	A-2-4	0	0-10	45-55	40-55	35-50	15-35	10-20	NP-4
348: Wauquie-----	0-2	Extremely gravelly sandy clay loam	SW-SC	A-2-4	0-10	10-20	60-80	30-45	20-30	5-15	15-25	4-15
	2-16	Very gravelly clay loam	SC	A-2-6	0-5	5-15	75-95	50-65	30-50	10-20	30-40	10-15
	16-40	Very gravelly sandy loam	GC-GM	A-1-b	0-3	5-15	35-55	30-50	20-40	5-15	10-25	NP-4
	40-60	Extremely gravelly loamy sand	SW-SM	A-1-a	0-3	10-20	60-80	30-45	10-20	5-10	5-15	NP-4
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
353: Cochiti-----	0-4	Extremely gravelly loam	GC	A-2-6	0-5	15-30	20-35	15-30	15-25	10-20	25-40	10-25
	4-22	Very gravelly clay loam	GC	A-6	0-2	10-15	45-60	40-55	35-50	30-45	35-50	15-25
	22-60	Very gravelly loamy sand	GC-GM, GM	A-1-b	0-2	10-15	35-55	30-50	20-40	10-20	15-20	NP-4
Espiritu-----	0-3	Very gravelly loam	SC	A-6	0-5	5-15	70-90	50-70	40-60	30-50	25-40	10-25
	3-16	Very gravelly sandy clay loam	SC	A-6	0-5	5-15	75-95	50-70	40-60	30-50	25-35	10-20
	16-60	Extremely gravelly loamy sand	SM	A-1-a	0	15-25	60-80	30-45	20-40	5-20	10-20	NP-4
354: Waumac Variant--	0-3	Very gravelly sandy loam	SM	A-1-b	0	0	85-100	35-60	20-40	10-30	15-25	NP-4
	3-12	Very gravelly sandy loam	SM	A-1-b	0	0	85-100	35-65	20-40	10-30	15-25	NP-4
	12-60	Bedrock			---	---	---	---	---	---	---	---
358: Deama-----	0-3	Very gravelly loam	GC	A-2-6	0-5	5-15	50-60	40-50	35-45	25-35	25-40	10-25
	3-19	Very gravelly loam	GC	A-2-6	0-3	5-15	50-60	40-50	35-45	25-35	25-40	10-25
	19-60	Bedrock			---	---	---	---	---	---	---	---
Elpedro-----	0-3	Very gravelly loam	CL, SC	A-6	0	0-5	80-90	50-65	45-65	40-60	25-40	10-25
	3-37	Silty clay loam	CL	A-6	0	0	95-100	90-100	85-95	75-90	35-45	15-25
	37-60	Loam, silt loam	CL	A-6	0	0	95-100	90-100	85-100	50-60	25-40	10-25
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
396: Atarque-----	0-2	Extremely gravelly sandy loam	GC-GM	A-1-a	0-3	10-20	35-55	25-45	15-25	5-15	20-30	4-7
	2-16 16-60	Clay loam Bedrock	CL, SC	A-6	0 ---	0 ---	100 ---	100 ---	80-95 ---	40-60 ---	35-50 ---	15-25 ---
Menefee-----	0-2	Gravelly clay loam	CL	A-6	0	0-5	80-100	70-80	60-80	50-70	35-50	15-25
	2-14 14-60	Clay loam Bedrock	CL	A-6	0 ---	0 ---	100 ---	90-100 ---	85-100 ---	70-90 ---	35-50 ---	15-25 ---
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
397: Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
Cucho-----	0-2	Very gravelly clay loam	SC	A-6	0	0	70-90	45-65	40-60	35-55	35-50	15-25
	2-9	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	9-37	Very gravelly clay loam	SC	A-6	0	0	75-95	40-60	35-55	30-50	35-50	15-25
	37-60	Bedrock			---	---	---	---	---	---	---	---
Vessilla-----	0-2	Gravelly fine sandy loam	SC-SM	A-1-b	0	0	100	65-85	40-60	15-25	20-30	4-7
	2-11	Gravelly fine sandy loam	SC-SM	A-2-4	0	0	100	70-90	45-65	15-30	20-30	4-7
	11-60	Bedrock			---	---	---	---	---	---	---	---
398: Espiritu-----	0-4	Very gravelly fine sandy loam	SC-SM	A-4	0	5-15	70-90	50-70	35-55	30-50	20-30	4-7
	4-24	Very gravelly sandy clay loam	SC	A-2-6	0	5-15	70-90	50-70	40-60	25-45	25-35	10-20
	24-60	Extremely gravelly sandy loam	SC-SM	A-2-4	0	15-25	65-85	30-40	25-40	25-35	20-30	4-7
Cucho-----	0-2	Very gravelly clay loam	SC	A-6	0	0	65-85	40-60	40-50	40-50	35-50	15-25
	2-37 37-60	Silty clay loam Bedrock	CL	A-6	0 ---	0 ---	100 ---	100 ---	95-100 ---	75-90 ---	35-45 ---	15-25 ---
399: Cucho-----	0-2	Very gravelly clay loam	SC	A-6	0	0	80-100	40-60	35-55	30-50	35-50	15-25
	2-37 37-60	Clay loam Bedrock	CL	A-6	0 ---	0 ---	100 ---	100 ---	90-100 ---	70-90 ---	35-50 ---	15-25 ---
Teco-----	0-1	Very cobbly fine sandy loam	SM	A-2-4	0	10-30	70-90	55-75	45-65	20-40	15-25	NP-4
	1-7	Sandy clay	ML	A-7	0	0	100	100	75-95	60-80	35-55	15-20
	7-23	Clay	CH	A-7-6	0	0	100	100	95-100	70-90	50-60	25-35
	23-40	Clay	CH	A-7-6	0	0	100	100	95-100	70-90	50-60	25-35
	40-45	Very gravelly fine sandy loam	SM	A-1-b	0	5-15	80-95	50-70	20-40	10-20	15-25	NP-4
	45-60	Channery sandy clay loam	SC	A-2-4	0	0	85-100	65-85	45-65	20-40	20-30	4-15
405: Charo-----	0-5	Cobbly loam	CL	A-6	0-5	5-20	70-80	60-70	50-60	45-55	25-40	10-25
	5-12	Clay	CH	A-7-6	0	0	100	100	95-100	70-90	50-60	25-35
	12-15	Clay	CH	A-7-6	0	0	100	100	95-100	70-90	50-60	25-35
	15-25	Clay	CH	A-7-6	0	0-10	90-100	90-100	85-95	70-90	50-60	25-35
	25-28	Clay	CH	A-7-6	0	0-10	90-100	80-95	70-90	65-85	50-60	25-35
	28-60	Bedrock			---	---	---	---	---	---	---	---
Charo, noncobbly	0-8	Loam	CL	A-6	0-2	0-10	90-100	85-95	75-90	50-60	30-35	10-15
	8-38 38-60	Clay Bedrock	CL, CH	A-7-6	0-2 ---	0-10 ---	90-100 ---	85-95	80-90	70-90	40-60	20-30
409: Santa Fe-----	0-3	Very gravelly sandy loam	SC-SM	A-1-b	0-5	0-5	90-100	45-65	25-45	10-20	20-30	4-7
	3-8	Very gravelly sandy clay loam	SC	A-2-6	0	5-15	80-100	45-65	35-55	15-35	25-35	10-20
	8-60	Bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
410: Zia-----	0-10	Loam	CL	A-6	0	0	100	95-100	85-100	50-60	25-40	10-25
	10-60	Stratified sandy loam to fine sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	16-27	4-7
414: Wauquie-----	0-3	Very gravelly fine sandy loam	SM	A-1-b	0-3	5-15	75-90	50-70	25-40	10-20	15-25	NP-4
	3-30	Very gravelly sandy clay loam	SC	A-2-4	0-3	10-20	70-90	50-60	25-45	10-30	20-30	4-15
	30-60	Stratified very gravelly sandy loam to very gravelly loamy coarse sand	SW-SM	A-1-b	0-5	16-30	70-90	45-65	15-35	11-25	10-25	NP-4
417: Jocity-----	0-10	Loam	CL	A-4	0	0	100	100	85-100	50-60	20-30	4-10
	10-26	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	30-40	10-15
	26-32	Loam	CL	A-4	0	0	100	100	85-100	50-60	25-35	4-15
	32-50	Sandy clay loam	SM	A-4	0	0	100	100	75-90	40-50	10-15	NP-4
	50-56	Sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	25-45	20-30	4-7
	56-60	Loamy sand	SM	A-2-4	0	0	100	100	60-80	15-35	15-20	NP-4
418: Jocity-----	0-12	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	12-30	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	30-60	Stratified loamy sand to sandy loam	SC-SM	A-2-4	0	0	100	100	60-80	20-40	15-25	NP-7
419: Santa Fe-----	0-9	Extremely cobbly coarse sandy loam	SP-SC	A-1-a	0-5	20-45	50-70	30-50	10-25	5-15	20-30	4-7
	9-16	Very gravelly sandy clay loam	SC	A-2-6	0-5	5-15	80-100	50-70	25-45	10-20	25-35	10-20
	16-60	Bedrock			---	---	---	---	---	---	---	---
Wauquie-----	0-4	Extremely cobbly fine sandy loam	SW-SM	A-1-a	0-10	15-30	60-80	15-35	5-15	0-10	10-20	NP-4
	4-11	Extremely cobbly sandy clay loam	SW-SC	A-2-4	0-10	15-35	60-80	15-35	5-15	0-15	15-25	4-15
	11-18	Extremely cobbly sandy clay loam	SW-SC	A-2-4	0-10	15-35	60-80	15-35	5-15	0-15	15-25	5-15
	18-29	Extremely cobbly sandy loam	SW-SM	A-1-a	0-10	15-35	60-80	10-30	5-15	0-10	15-25	NP-4
	29-60	Extremely cobbly sand	SW-SM	A-1-a	0-10	15-35	60-80	10-30	0-15	0-10	0-0	NP
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
420: Pinavetes-----	0-10	Loamy sand	SM	A-2-4	0	0	100	100	60-80	15-35	15-20	NP-4
	10-60	Sand	SW-SM	A-2-4	0	0	100	100	60-80	0-20	10-15	NP-3
421: Gilco, moderately saline, sodic--	0-7	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	7-19	Very fine sandy loam	SC-SM	A-4	0	0	100	100	80-90	30-50	20-30	4-7
	19-60	Stratified fine sandy loam to loam	SC-SM, SC	A-4	0	0	84-100	83-100	80-90	40-60	25-35	4-12
422: Vessilla-----	0-1	Sandy loam	SC-SM	A-2-4	0	0-10	90-100	90-100	60-80	25-45	20-30	4-7
	1-15	Sandy loam	SC-SM	A-2-4	0	0-10	90-100	90-100	60-80	25-45	20-30	4-7
	15-60	Bedrock			---	---	---	---	---	---	---	---
Menefee-----	0-3	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	3-10	Clay loam	CL	A-6	0	0	90-100	85-100	85-100	70-90	35-50	15-25
	10-60	Bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
422: Orlie-----	0-4	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	4-14	Clay loam, silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
	14-60	Silty clay loam	CL	A-6	0	0	100	100	95-100	75-90	35-45	15-25
423: Gilco-----	0-8	Loam	CL	A-6	0	0	85-100	80-100	80-90	50-60	25-40	10-25
	8-14	Loam	CL	A-6	0	0	90-100	85-100	80-90	50-60	25-40	10-25
	14-60	Stratified fine sandy loam to silt loam	CL	A-4	0	0	80-100	80-100	80-90	50-60	20-30	4-12
426: Aga, moderately saline, sodic--	0-8	Loam	CL	A-6	0	0	100	100	85-95	65-80	25-35	10-25
	8-20	Loam	CL	A-6	0	0	100	100	85-95	55-70	25-35	10-25
	20-36	Loamy sand	SM	A-2-4	0	0	100	95-100	55-75	10-30	0-0	NP
	36-60	Gravelly sand	SW-SM	A-2-4, A-3	0	0	80-100	70-90	65-80	0-20	0-0	NP
427: Aga-----	0-8	Loam	CL	A-6	0	0	100	100	70-95	45-70	25-40	10-25
	8-28	Loam	CL	A-6	0	0	95-100	90-100	65-95	40-70	25-40	10-25
	28-60	Loamy fine sand	SM	A-2-4	0	0	95-100	90-100	50-80	20-40	15-20	NP-4
428: Aga, moderately saline, sodic--	0-4	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	4-16	Very fine sandy loam	SC-SM	A-4	0	0	100	100	80-90	40-50	20-30	4-7
	16-22 22-60	Loam Stratified sand to loamy sand	CL SM	A-6 A-2-4	0 0	0 0	100 100	100 95-100	85-100 60-80	50-60 18-30	25-40 0-0	10-25 NP
430: Trail-----	0-10	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	10-34	Loamy sand	SM	A-4	0	0	100	100	65-85	35-50	15-20	NP-4
	34-60	Stratified sand to fine sandy loam	SW-SM	A-2-4, A-3	0	0	100	100	60-80	0-20	0-0	NP
431: Trail-----	0-10	Loamy sand	SM	A-2-4	0	0	100	100	60-80	20-40	15-20	NP-4
	10-60	Stratified loamy sand to sand to gravelly sand to fine sandy loam	SC-SM	A-2-4	0	0	100	90-100	60-80	0-40	5-20	NP-7
433: Peralta-----	0-10	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	10-60	Stratified very fine sandy loam to fine sandy loam to loamy fine sand	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
434: Peralta-----	0-10	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	10-16	Very fine sandy loam	CL-ML	A-4	0	0	100	100	75-85	40-60	20-30	4-7
	16-20	Clay loam	CL	A-6	0	0	100	100	90-100	70-90	35-50	15-25
	20-28	Fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	20-30	4-7
	28-40	Loamy sand	SM	A-2-4	0	0	100	100	65-85	15-35	15-20	NP-4
	40-45	Silt loam	ML	A-4	0	0	100	100	90-100	70-90	25-30	4-7
	45-60	Loamy fine sand	SM	A-2-4	0	0	100	100	65-85	20-40	15-20	NP-4
437: Peralta, moderately saline, sodic--	0-4	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	4-60	Stratified loam to fine sandy loam to loamy sand	SC-SM	A-4	0	0	100	100	75-85	35-50	16-30	4-7
500: Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
500: Osha-----	0-10	Very gravelly coarse sandy loam	SM	A-1-b	0-2	0-5	80-95	50-70	40-60	15-35	10-25	NP-4
	10-20	Very gravelly coarse sandy loam	SM	A-1-b	0	0	70-90	50-70	40-60	15-35	10-25	NP-4
	20-43	Extremely gravelly loamy coarse sand, extremely gravelly coarse sandy loam	SW-SM	A-1-a	0	0	55-75	25-45	15-35	5-15	0-10	NP
	43-60	Bedrock			---	---	---	---	---	---	---	---
Rubble land----	0-60	Fragmental material	GW	A-1-a	50-70	20-40	0-10	0-5	0-5	0	0-0	NP
503: Cajete-----	0-8	Extremely gravelly coarse sandy loam	SW-SC	A-1-a	0	0	55-75	30-50	5-15	5-10	20-30	4-7
	8-60	Very gravelly sandy loam	SC-SM	A-1-b	0	0	55-70	50-65	30-50	15-30	20-30	4-7
Cypher-----	0-3	Very gravelly loam	GC	A-6	0-3	10-15	40-60	35-55	30-50	30-50	25-40	10-25
	3-11	Very gravelly sandy loam	GC-GM	A-2-4	0-3	10-25	70-90	40-60	30-50	25-45	20-30	4-7
	11-15	Extremely gravelly sandy loam	GC-GM	A-2-4	0-10	10-30	40-60	30-40	25-35	20-35	20-30	4-7
	15-60	Bedrock			---	---	---	---	---	---	---	---
504: Orejas-----	0-2	Very cobbly loam	GC	A-2-4	0	15-45	50-70	50-70	40-50	20-45	20-30	7-10
	2-9	Very cobbly clay loam	SC	A-6	0	10-25	70-90	60-75	50-70	30-50	30-40	10-15
	9-17	Very gravelly clay loam	SC	A-2-6	0	0-10	75-90	50-70	50-70	25-50	30-40	10-15
	17-60	Bedrock			---	---	---	---	---	---	---	---
Guaaje-----	0-4	Gravelly sandy loam	SC-SM	A-2-4	0	0	90-100	70-90	60-80	25-45	15-25	4-7
	4-12	Gravelly sandy loam	SC-SM	A-2-4	0	0-15	75-95	60-80	50-70	25-45	15-25	4-7
	12-17	Very gravelly sandy loam	GC-GM	A-1-b	0	0-10	35-55	30-50	20-35	10-30	15-25	NP-7
	17-45	Extremely gravelly sandy loam	SC-SM	A-1-b	0	0-10	80-100	25-45	10-25	5-20	15-25	NP-7
	45-60	Very gravelly sandy loam	SC-SM	A-2-4	0	0-10	80-100	35-55	30-50	25-35	15-25	NP-7
600: Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
Cypher-----	0-4	Very cobbly loam	GC	A-2-6	0-5	30-55	45-65	45-55	35-55	25-45	25-40	10-25
	4-14	Very gravelly loam	GC	A-2-6	0-5	10-15	40-60	35-55	25-45	20-35	25-40	10-25
	14-16	Very gravelly loam	GC	A-2-6	0-5	10-15	40-60	35-55	25-45	20-35	25-40	10-25
	16-60	Bedrock			---	---	---	---	---	---	---	---
601: Laventana-----	0-5	Gravelly sandy loam	SC-SM	A-2-4	0	0-5	90-100	70-85	60-80	25-45	20-30	4-7
	5-9	Very gravelly loam	SC	A-2-4	0	0-10	85-100	45-65	40-60	20-40	20-35	4-15
	9-50	Very gravelly loam, very gravelly sandy clay loam	SC	A-2-4	0	0-5	60-80	45-55	30-50	15-35	15-35	4-15
	50-60	Bedrock			---	---	---	---	---	---	---	---

Table 14.--Engineering properties--continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
603: Laventana-----	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	---	---
	1-5	Very cobbly loam	GC	A-2-4	0-5	25-45	50-70	40-55	35-45	25-35	20-30	7-10
	5-12	Gravelly silt loam	CL-ML, SC-SM	A-4	0	0-10	75-95	65-85	55-65	40-60	20-30	4-7
	12-20	Very cobbly loam	GC	A-4	0	15-30	60-80	50-70	40-60	30-50	20-30	7-10
	20-31	Very gravelly loam	SC	A-2-4	0	0-20	70-90	40-60	35-55	20-40	20-30	7-10
	31-51	Very gravelly loam	SC	A-2-4	0	0-20	65-85	40-60	30-50	20-40	20-30	7-10
	51-60	Bedrock			---	---	---	---	---	---	---	---
Mirand-----	0-6	Very cobbly loam	SC	A-4	0-3	11-20	65-85	50-65	45-55	30-50	20-30	4-20
	6-27	Cobbly clay	CH, CL	A-7-6	0-2	0-15	80-90	70-80	70-80	50-70	40-60	20-30
	27-60	Sandy clay	ML	A-6, A-7	0-3	0-10	85-100	80-100	75-95	60-80	35-55	15-20
604: Cypher-----	0-1	Slightly decomposed plant material	PT	A-8	0	0	100	100	---	---	---	---
	1-4	Very gravelly loam	GC	A-2-6	0	5-15	40-60	35-55	30-40	25-35	25-40	10-25
	4-11	Very gravelly loam	GC	A-6	0	5-15	60-80	40-60	40-50	35-45	25-40	10-25
	11-19	Extremely gravelly sandy loam	GC-GM	A-1-b	0	5-15	40-60	10-20	10-20	10-20	20-30	4-7
	19-60	Bedrock			---	---	---	---	---	---	---	---
Mirand-----	0-4	Very cobbly loam	SC	A-4	0-3	11-17	70-90	50-65	45-65	35-45	20-35	4-20
	4-60	Cobbly clay	CL, SC	A-7-6	0-3	0-20	80-90	70-85	60-80	40-60	40-50	10-30
608: Osha, steep-----	0-3	Gravelly coarse sandy loam	SC-SM	A-2-4	0	0	90-100	70-90	50-70	15-35	15-25	NP-4
	3-8	Gravelly coarse sandy loam	SC-SM	A-2-4	0	0	100	70-90	50-70	15-35	15-25	NP-4
	8-16	Gravelly coarse sandy loam	SC-SM	A-2-4	0	0	85-100	70-90	50-70	15-35	15-25	NP-4
	16-32	Extremely gravelly coarse sandy loam	SW-SM	A-1-a	0	0	65-85	15-35	15-25	0-10	10-20	NP-4
	32-60	Extremely gravelly loamy coarse sand	SW-SM	A-1-a	0	0	50-70	10-30	5-15	0-10	5-15	NP
Osha-----	0-8	Gravelly coarse sandy loam	SM	A-1-b	0	0	80-100	65-85	30-45	20-30	15-20	NP-4
	8-16	Gravelly coarse sandy loam, very gravelly coarse sandy loam	GC-GM	A-1-b	0	0	35-55	30-50	20-35	10-30	15-20	NP-10
	16-32	Extremely gravelly coarse sandy loam	GC-GM	A-1-a	0	0	35-55	30-50	10-20	0-10	15-20	NP-10
	32-60	Extremely gravelly loamy coarse sand	GW, GP-GM	A-1-a	0	0	30-50	25-45	5-15	0-10	10-20	NP-4
823: Gilco, unprotected----	0-8	Loam	CL	A-6	0	0	85-100	80-100	80-90	50-60	25-40	10-25
	8-60	Stratified fine sandy loam to loam to silt loam	CL	A-6	0	0	85-100	80-100	80-90	50-60	25-40	10-25
827: Aga, unprotected	0-8	Loam	CL	A-6	0	0	100	100	85-100	50-60	25-40	10-25
	8-28	Loam	CL	A-6	0	0	95-100	90-100	80-90	50-60	25-40	10-25
	28-60	Loamy fine sand	SM	A-2-4	0	0	90-100	90-100	65-85	20-40	15-20	NP-4

Table 14.--Engineering properties--continued

[illegible]

Table 15.--Physical soil properties

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	In./hr.	In./in.	Pct.	Pct.					
1: Silver-----	0-4	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.0	.37	.37	5	5	56
	4-8	5-20	45-65	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.37	.37			
	8-20	5-20	45-65	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.37	.37			
	20-39	25-45	25-45	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	39-60	25-45	25-45	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
Clovis-----	0-3	35-50	30-45	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	1.0-2.0	.37	.37	5	5	56
	3-20	25-40	20-45	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	20-40	50-70	10-25	20-30	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	40-60	60-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
2: Clovis-----	0-3	35-50	30-45	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	1.0-2.0	.37	.37	5	5	56
	3-24	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	24-60	55-75	10-35	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
Prieta-----	0-3	35-50	30-45	15-25	1.35-1.45	0.6-2	0.07-0.09	3.0-5.9	0.5-1.0	.10	.37	1	8	0
	3-10	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.09-0.11	3.0-5.9	0.0-1.0	.10	.32			
	10-14	25-45	25-45	28-35	1.35-1.45	0.2-0.6	0.09-0.11	3.0-5.9	0.0-0.5	.10	.32			
	14-19	25-45	25-45	28-35	1.35-1.45	0.2-0.6	0.09-0.11	3.0-5.9	0.0-0.5	.10	.32			
	19-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
Silver-----	0-8	30-50	30-45	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.0	.37	.37	5	5	56
	8-30	5-20	45-60	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.37	.37			
	30-60	5-20	45-65	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.37	.37			
3: Montecito-----	0-3	55-75	10-25	10-20	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.5-1.0	.28	.28	5	3	86
	3-18	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	18-60	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
Orejas-----	0-2	30-50	30-45	20-27	1.35-1.45	0.6-2	0.11-0.13	3.0-5.9	0.5-1.0	.20	.37	1	7	38
	2-5	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.09-0.11	3.0-5.9	0.0-1.0	.10	.32			
	5-14	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.09-0.11	3.0-5.9	0.0-0.5	.10	.32			
	14-17	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.09-0.11	3.0-5.9	0.0-0.5	.10	.32			
	17-19	25-45	25-45	28-35	1.35-1.45	0.2-0.6	0.09-0.11	3.0-5.9	0.0-0.5	.10	.32			
	19-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
4: Montecito-----	0-3	60-75	15-35	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.5-1.0	.28	.28	5	3	86
	3-22	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	22-60	35-50	30-45	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37			
Montecito, bouldery-	0-5	35-50	30-50	5-15	1.45-1.55	2-6	0.02-0.04	0.0-2.9	0.5-1.0	.05	.28	5	8	0
	5-28	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	28-45	30-50	30-45	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37			
	45-60	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
10: Trail-----	0-6	10-20	45-60	28-35	1.15-1.35	6-20	0.19-0.21	3.0-5.9	0.5-1.0	.37	.37	5	4L	86
	6-30	60-85	2-25	5-10	1.45-1.55	6-20	0.06-0.08	0.0-2.9	0.0-1.0	.17	.17			
	30-45	90- 100	0-5	0-5	1.55-1.65	6-20	0.03-0.05	0.0-2.9	0.0-0.5	.10	.10			
	45-60	75-90	0-15	5-10	1.45-1.55	6-20	0.09-0.10	0.0-2.9	0.0-0.5	.20	.20			
11: Trail-----	0-9	55-80	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.5-1.0	.28	.28	5	3	86
	9-36	75-95	0-15	5-10	1.45-1.55	6-20	0.06-0.08	0.0-2.9	0.0-1.0	.17	.17			
	36-60	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
13: Sandoval-----	0-2	55-75	10-25	10-20	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.5-1.5	.28	.28	2	3	86
	2-6	25-45	30-45	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	6-10	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	10-15	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	15-60	---	---	---	---	0.00-0.02	---	---	---	---	---			
Querencia-----	0-4	50-70	10-25	20-30	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.5-1.5	.32	.32	5	4L	86
	4-12	30-45	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	12-24	30-50	30-45	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37			
	24-60	30-50	30-45	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37			
15: Camino-----	0-2	10-20	45-55	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.5-1.0	.37	.37	4	4L	86
	2-5	15-40	15-40	40-50	1.15-1.35	0.06-0.2	0.14-0.16	6.0-8.9	0.0-0.5	.20	.20			
	5-20	15-40	15-40	40-50	1.15-1.35	0.06-0.2	0.14-0.16	6.0-8.9	0.0-0.5	.20	.20			
	20-51	15-40	15-40	40-50	1.15-1.35	0.06-0.2	0.14-0.16	6.0-8.9	0.0-0.5	.20	.20			
	51-60	---	---	---	---	0.00-0.2	---	---	---	---	---			

Table 15.--Physical soil properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	In./hr.	In./in.	Pct.	Pct.					
15: Sandoval-----	0-2 2-17 17-60	55-75 25-45 ---	10-25 25-40 ---	10-18 28-35 ---	1.45-1.55 1.35-1.45 ---	2-6 0.2-0.6 0.00-0.02	0.13-0.15 0.19-0.21 ---	0.0-2.9 3.0-5.9 ---	1.0-2.0 0.0-1.0 ---	.28 .32 ---	.28 .32 ---	2	3	86
16: Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
Prieta-----	0-5 5-15 15-19 19-60	15-35 25-40 25-40 ---	50-70 20-40 25-40 ---	15-25 28-35 28-35 ---	1.15-1.35 1.35-1.45 1.35-1.45 ---	0.6-2 0.2-0.6 0.2-0.6 0.00-0.01	0.13-0.15 0.09-0.11 0.09-0.11 ---	3.0-5.9 3.0-5.9 3.0-5.9 ---	0.5-1.0 0.0-1.0 0.0-0.5 ---	.24 .10 .10 ---	.43 .32 .32 ---	1	7	38
17: Vessilla-----	0-5 5-11 11-60	55-75 55-75 ---	15-35 15-35 ---	5-15 5-15 ---	1.45-1.55 1.45-1.55 ---	2-6 2-6 0.00-0.01	0.11-0.13 0.11-0.13 ---	0.0-2.9 0.0-2.9 ---	0.5-1.0 0.0-0.5 ---	.24 .24 ---	.24 .24 ---	1	3	86
Menefee-----	0-3 3-10 10-60	25-40 25-40 ---	25-40 25-40 ---	28-35 28-35 ---	1.35-1.45 1.35-1.45 ---	0.2-0.6 0.2-0.6 0.00-0.02	0.19-0.21 0.19-0.21 ---	3.0-5.9 3.0-5.9 ---	1.0-2.0 0.0-1.0 ---	.32 .32 ---	.32 .32 ---	2	4L	86
Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
18: Sparham-----	0-7 7-20 20-29 29-47 47-53 53-60	20-45 20-40 25-40 5-20 25-40 25-40	15-35 20-40 25-40 45-60 25-40 25-40	40-50 28-55 28-35 28-35 28-35 28-35	1.35-1.45 1.35-1.45 1.35-1.45 1.15-1.35 1.35-1.45 1.35-1.45	0.2-0.6 0.2-0.6 0.2-0.6 0.2-0.6 0.2-0.6 0.2-0.6	0.19-0.21 0.19-0.21 0.19-0.21 0.19-0.21 0.19-0.21 0.19-0.21	3.0-5.9 3.0-5.9 3.0-5.9 3.0-5.9 3.0-5.9 3.0-5.9	0.5-1.5 0.5-1.0 0.0-1.0 0.0-0.5 0.0-0.5 0.0-0.5	.32 .32 .32 .37 .32 .32	.32 .32 .32 .37 .32 .32	5	4	86
20: Gilco-----	0-6 6-60	25-40 35-70	25-40 25-50	27-32 10-20	1.35-1.45 1.35-1.45	0.2-0.6 0.6-2	0.19-0.21 0.16-0.18	3.0-5.9 0.0-2.9	0.5-1.0 0.0-0.5	.32 .37	.32 .37	5	4L	86
21: Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
Hackroy-----	0-3 3-12 12-60	55-75 20-45 ---	5-30 20-40 ---	10-18 40-50 ---	1.45-1.55 1.15-1.35 ---	2-6 0.06-0.2 0.00-0.01	0.11-0.13 0.14-0.16 ---	0.0-2.9 6.0-8.9 ---	1.0-2.0 0.0-0.5 ---	.24 .20 ---	.24 .20 ---	1	3	86
22: Aga-----	0-8 8-24 24-60 100	5-20 35-50 90- 100	45-60 30-50 0-10 ---	28-35 8-18 0-12 ---	1.55-1.65 1.45-1.55 1.40-1.50 ---	0.2-0.6 0.6-2 6-20 ---	0.19-0.21 0.14-0.16 0.07-0.09 ---	3.0-5.9 0.0-2.9 0.0-2.9 ---	0.5-0.8 0.1-0.3 0.1-0.3 ---	.37 .37 .17 ---	.37 .37 .17 ---	3	4L	86
23: Hickman-----	0-4 4-12 12-49 49-60	25-40 50-70 25-40 50-75	25-40 5-25 25-40 5-25	28-35 20-35 28-35 20-35	1.35-1.45 1.35-1.45 1.35-1.45 1.35-1.45	0.2-0.6 0.6-2 0.2-0.6 0.6-2	0.19-0.21 0.14-0.16 0.19-0.21 0.14-0.16	3.0-5.9 3.0-5.9 3.0-5.9 3.0-5.9	2.0-4.0 1.0-1.5 0.0-1.0 0.0-0.5	.32 .32 .32 .32	.32 .32 .32 .32	5	4L	86
24: Orlie-----	0-2 2-25 25-60	60-75 25-40 25-60	10-30 25-40 10-45	5-15 28-35 20-30	1.45-1.55 1.35-1.45 1.35-1.45	2-6 0.2-0.6 0.6-2	0.13-0.15 0.19-0.21 0.14-0.16	0.0-2.9 3.0-5.9 3.0-5.9	2.0-3.0 0.5-1.0 0.0-0.5	.28 .32 .32	.28 .32 .32	5	3	86
Sparham-----	0-3 3-60	10-40 0-15	20-40 40-55	40-55 40-50	1.15-1.35 1.20-1.30	0.06-0.2 0.06-0.2	0.14-0.16 0.15-0.17	6.0-8.9 6.0-8.9	0.5-1.5 0.0-1.0	.20 .24	.20 .24	5	4	86
25: Gilco-----	0-4 4-34 34-60	30-50 15-75 35-70	30-50 20-70 15-50	10-18 10-18 10-18	1.35-1.45 1.35-1.45 1.35-1.45	0.6-2 0.6-2 0.6-2	0.16-0.18 0.13-0.15 0.13-0.15	0.0-2.9 0.0-2.9 0.0-2.9	0.5-1.0 0.0-0.5 0.0-0.5	.37 .37 .37	.37 .37 .37	5	4L	86
26: Orlie-----	0-2 2-13 13-22 22-36 36-50 50-60	30-50 30-45 30-45 10-20 30-45 10-20	30-55 25-45 25-45 45-65 25-45 45-65	10-20 28-35 28-35 28-35 28-35 28-35	1.35-1.45 1.35-1.45 1.35-1.45 1.15-1.35 1.35-1.50 1.15-1.35	0.6-2 0.2-0.6 0.2-0.6 0.2-0.6 0.2-0.6 0.2-0.6	0.16-0.18 0.19-0.21 0.19-0.21 0.19-0.21 0.19-0.21 0.19-0.21	0.0-2.9 3.0-5.9 3.0-5.9 3.0-5.9 3.0-5.9 3.0-5.9	2.0-3.0 0.5-1.5 0.5-1.0 0.0-1.0 0.0-0.5 0.0-0.5	.37 .32 .32 .37 .32 .37	.37 .32 .32 .37 .32 .37	5	6	48
27: Aga-----	0-10 10-23 23-43 43-60 100	35-50 35-50 90- 90- 100	35-50 35-50 0-10 0-10 ---	10-20 8-18 0-5 0-5 ---	1.35-1.45 1.35-1.45 1.55-1.65 1.55-1.65 ---	0.6-2 0.6-2 6-20 6-20 ---	0.14-0.18 0.14-0.16 0.03-0.05 0.03-0.05 ---	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9 ---	0.5-1.0 0.0-0.5 0.0-0.5 0.0-0.5 ---	.37 .37 .17 .17 ---	.37 .37 .17 .17 ---	3	4L	86

Table 15.--Physical soil properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	In./hr.	In./in.	Pct.	Pct.					
29: Trail-----	0-6 6-60	75-90 55-85	0-20 10-30	5-10 5-10	1.45-1.55 1.45-1.55	6-20 6-20	0.06-0.08 0.06-0.08	0.0-2.9 0.0-2.9	0.0-1.0 0.0-0.5	.17 .17	.17 .17	5	2	134
31: Riverwash-----	0-6 6-60	95- 100 70- 100	0-10 0-20	0-1 0-5	1.65-1.75 1.15-1.25	6-20 6-20	0.03-0.04 0.04-0.06	0.0-2.9 0.0-2.9	0.0-0.1 0.0-0.5	.10 .10	.10 .10	2	5	220
33: Pits-----	0-60	---	---	---	---	0.2-0.6	---	---	---	---	---	--	8	0
34: Ildefonso-----	0-3 3-17 17-60	30-50 30-50 35-70	30-45 30-45 15-50	15-25 15-25 10-20	1.35-1.45 1.35-1.45 1.40-1.50	0.6-2 0.6-2 0.6-2	0.11-0.13 0.11-0.13 0.06-0.08	3.0-5.9 3.0-5.9 0.0-2.9	1.0-2.0 0.5-1.0 0.0-0.5	.20 .20 .10	.37 .37 .32	3	6	48
Witt-----	0-3 3-27 27-60	55-70 30-50 30-50	15-35 30-45 35-45	5-15 15-25 15-25	1.40-1.50 1.35-1.45 1.35-1.45	0.6-2 0.6-2 0.6-2	0.15-0.17 0.16-0.18 0.16-0.18	0.0-2.9 3.0-5.9 3.0-5.9	0.5-1.0 0.0-1.0 0.0-0.5	.55 .37 .37	.55 .37 .37	5	5	56
41: Dune land-----	0-6 6-60	90- 100 90- 100	0-10 0-10	0-1 0-1	1.65-1.75 1.65-1.75	6-20 6-20	0.03-0.04 0.03-0.05	0.0-2.9 0.0-2.9	0.0-0.1 0.0-0.0	.10 .10	.10 .10	5	1	220
47: Cascajo-----	0-2 2-5 5-11 11-23 23-30 30-60	55-75 55-75 55-75 75-95 75-95 75-95	10-30 10-30 10-30 0-15 0-15 0-15	5-15 5-15 5-15 5-10 5-10 5-10	1.45-1.55 1.45-1.55 1.45-1.55 1.45-1.55 1.45-1.55 1.45-1.55	2-6 2-6 2-6 6-20 6-20 6-20	0.05-0.07 0.05-0.07 0.05-0.07 0.04-0.06 0.04-0.06 0.01-0.03	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	0.5-1.0 0.5-1.0 0.0-0.5 0.0-0.5 0.0-0.5 0.0-0.5	.10 .10 .10 .05 .05 .02	.24 .24 .24 .17 .17 .17	3	6	48
51: Sparham-----	0-6 6-20 20-36 36-60	25-45 25-45 20-40 25-45	20-40 20-40 20-40 25-45	28-35 28-35 40-50 28-35	1.35-1.45 1.35-1.45 1.15-1.35 1.35-1.45	0.2-0.6 0.2-0.6 0.06-0.2 0.2-0.6	0.19-0.21 0.19-0.21 0.14-0.16 0.19-0.21	3.0-5.9 3.0-5.9 6.0-8.9 3.0-5.9	0.5-1.0 0.0-1.0 0.0-0.5 0.0-0.5	.32 .32 .20 .32	.32 .32 .20 .32	5	4	86
52: Totavi-----	0-15 15-19 19-60	75-90 75-90 75-90	0-15 0-15 0-15	5-10 5-10 5-10	1.50-1.60 1.50-1.60 1.50-1.60	6-20 6-20 6-20	0.06-0.08 0.06-0.08 0.06-0.08	0.0-2.9 0.0-2.9 0.0-2.9	0.0-1.0 0.0-0.5 0.0-0.5	.17 .17 .17	.17 .17 .17	5	2	134
53: Witt-----	0-3 3-6 6-11 11-18 18-25 25-39 39-53 53-60	35-50 5-25 0-15 0-15 0-15 0-20 0-20 0-20	30-50 60-75 50-70 50-70 50-70 55-75 55-75 55-75	10-20 15-25 28-35 28-35 28-35 15-25 15-25 15-25	1.35-1.45 1.15-1.35 1.15-1.35 1.15-1.35 1.15-1.35 1.15-1.35 1.15-1.35 1.15-1.35	0.6-2 0.6-2 0.2-0.6 0.2-0.6 0.2-0.6 0.6-2 0.6-2 0.6-2	0.16-0.18 0.19-0.21 0.19-0.21 0.19-0.21 0.19-0.21 0.19-0.21 0.19-0.21 0.19-0.21	0.0-2.9 3.0-5.9 3.0-5.9 3.0-5.9 3.0-5.9 3.0-5.9 3.0-5.9 3.0-5.9	0.5-1.0 0.5-1.0 0.0-1.0 0.0-1.0 0.0-0.5 0.0-0.5 0.0-0.5 0.0-0.5	.37 .43 .37 .37 .37 .43 .43 .43	.37 .43 .37 .37 .37 .43 .43 .43	5	5	56
Harvey-----	0-10 10-28 28-42 42-60	30-50 25-45 50-70 55-75	30-45 25-45 10-30 10-35	15-25 28-35 20-35 5-15	1.35-1.45 1.35-1.45 1.35-1.45 1.45-1.55	0.6-2 0.2-0.6 0.6-2 2-6	0.16-0.18 0.19-0.21 0.14-0.16 0.11-0.13	3.0-5.9 3.0-5.9 3.0-5.9 0.0-2.9	0.5-1.0 0.0-1.0 0.0-0.5 0.0-0.5	.37 .32 .32 .24	.37 .32 .32 .24	5	4L	86
54: Harvey-----	0-2 2-11 11-23 23-60	55-75 55-75 30-45 50-70	5-30 10-30 30-45 10-30	5-18 5-15 28-35 20-35	1.45-1.55 1.45-1.55 1.35-1.45 1.35-1.45	2-6 2-6 0.2-0.6 0.6-2	0.13-0.15 0.13-0.15 0.19-0.21 0.14-0.16	0.0-2.9 0.0-2.9 3.0-5.9 3.0-5.9	0.5-1.0 0.0-1.0 0.0-0.5 0.0-0.5	.28 .28 .32 .32	.28 .28 .32 .32	5	3	86
Cascajo-----	0-3 3-9 9-28 28-60	55-75 55-75 90- 100 90- 100	10-30 10-30 0-10 0-10	5-15 5-15 0-5 0-5	1.45-1.55 1.45-1.55 1.55-1.65 1.55-1.65	2-6 2-6 6-20 6-20	0.05-0.07 0.05-0.07 0.02-0.03 0.02-0.03	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	0.5-1.0 0.5-1.0 0.0-0.5 0.0-0.5	.10 .10 .02 .10	.24 .24 .10 .10	2	6	48
55: La Fonda-----	0-4 4-26 26-60	30-50 30-50 25-45	30-45 30-45 25-45	20-27 15-25 20-27	1.35-1.45 1.35-1.45 1.35-1.45	0.6-2 0.6-2 0.6-2	0.16-0.18 0.16-0.18 0.16-0.18	3.0-5.9 3.0-5.9 3.0-5.9	1.0-2.0 0.0-1.0 0.0-0.5	.37 .37 .37	.37 .37 .37	5	4L	86

Table 15.--Physical soil properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	In./hr.	In./in.	Pct.	Pct.					
56: Ildefonso-----	0-3	30-50	30-45	15-25	1.35-1.45	0.6-2	0.11-0.13	3.0-5.9	1.0-2.0	.20	.37	3	6	48
	3-9	30-50	30-45	15-25	1.35-1.45	0.6-2	0.11-0.13	3.0-5.9	0.5-1.2	.20	.37			
	9-15	30-50	30-45	15-25	1.35-1.45	0.6-2	0.08-0.10	3.0-5.9	0.0-1.0	.10	.37			
	15-60	30-50	30-45	15-25	1.35-1.45	0.6-2	0.08-0.10	3.0-5.9	0.0-0.5	.10	.37			
57: Badland-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	4	86
58: Deama-----	0-7	15-35	50-70	15-27	1.15-1.35	0.6-2	0.09-0.11	3.0-5.9	1.0-3.0	.15	.43	1	6	48
	7-14	15-35	50-70	15-27	1.15-1.35	0.6-2	0.09-0.11	3.0-5.9	0.5-1.0	.15	.43			
	14-60	---	---	---	---	0.00-0.2	---	---	---	---	---			
Elpedro-----	0-5	30-50	30-50	15-22	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.0	.37	.37	5	5	56
	5-12	0-20	50-70	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.37	.37			
	12-19	0-20	50-70	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.37	.37			
	19-25	0-20	50-70	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.37	.37			
	25-36	0-20	50-70	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.37	.37			
	36-45	0-30	55-75	15-27	1.15-1.35	0.6-2	0.19-0.21	3.0-5.9	0.0-0.5	.43	.43			
	45-60	30-50	30-50	10-20	1.35-1.45	0.6-2	0.16-0.18	0.0-2.9	0.0-0.0	.37	.37			
59: Harvey-----	0-4	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.0	.37	.37	5	4L	86
	4-10	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-1.0	.37	.37			
	10-18	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	18-41	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	41-60	50-70	5-25	20-30	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
Ildefonso-----	0-2	30-50	30-50	15-25	1.35-1.45	0.6-2	0.11-0.13	3.0-5.9	1.0-2.0	.20	.37	3	6	48
	2-8	30-50	30-50	15-25	1.35-1.45	0.6-2	0.08-0.10	3.0-5.9	0.5-1.5	.10	.37			
	8-13	30-50	30-50	15-25	1.35-1.45	0.6-2	0.08-0.10	3.0-5.9	0.5-1.0	.10	.37			
	13-32	55-75	15-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.10	.24			
	32-40	55-75	15-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.10	.24			
	40-60	90-100	0-10	0-5	1.55-1.65	6-20	0.01-0.02	0.0-2.9	0.0-0.5	.02	.10			
La Fonda-----	0-3	30-50	30-50	20-27	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	1.0-2.0	.37	.37	5	4L	86
	3-7	30-50	30-50	20-27	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.5	.37	.37			
	7-14	25-40	20-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.5-1.0	.32	.32			
	14-26	30-50	30-50	20-27	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-1.0	.37	.37			
	26-42	30-50	30-50	20-27	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37			
	42-60	30-50	30-50	20-27	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37			
63: Placitas-----	0-5	30-50	30-50	10-20	1.35-1.45	0.6-2	0.10-0.12	0.0-2.9	1.0-2.0	.20	.37	2	6	48
	5-10	55-75	10-30	5-15	1.45-1.55	2-6	0.06-0.08	0.0-2.9	0.0-1.0	.10	.24			
	10-27	55-75	10-30	5-15	1.45-1.55	2-6	0.04-0.06	0.0-2.9	0.0-0.5	.10	.24			
	27-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
64: Skyvillage-----	0-4	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	1.0-2.0	.28	.28	1	3	86
	4-11	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-1.0	.28	.28			
	11-18	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	18-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
Ildefonso-----	0-3	55-75	10-30	5-15	1.45-1.55	2-6	0.08-0.09	0.0-2.9	0.5-1.0	.15	.24	3	5	56
	3-14	55-75	10-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-1.0	.10	.24			
	14-60	55-75	10-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.10	.24			
65: Ildefonso-----	0-6	55-75	10-30	8-18	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.5-1.0	.10	.24	3	6	48
	6-38	55-75	10-30	8-18	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-1.0	.10	.24			
	38-60	40-75	10-40	8-18	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.10	.24			
Harvey-----	0-4	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.0	.37	.37	5	4L	86
	4-23	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.0	.37	.37			
	23-36	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37			
	36-60	55-75	15-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
66: Zia-----	0-4	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	4-60	55-75	15-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
67: Sandoval-----	0-2	30-50	30-50	15-27	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	1.0-2.0	.37	.37	2	4L	86
	2-11	25-40	30-45	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	11-60	---	---	---	---	0.00-0.02	---	---	---	---	---			

Table 15.--Physical soil properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	In./hr.	In./in.	Pct.	Pct.					
67: Poley-----	0-3	30-50	30-50	15-25	1.35-1.45	0.6-2	0.08-0.10	3.0-5.9	0.5-1.5	.10	.37	4	6	48
	3-12	25-40	25-40	28-35	1.35-1.45	0.06-0.6	0.19-0.21	3.0-5.9	0.5-1.0	.32	.32			
	12-17	25-40	25-40	28-35	1.35-1.45	0.06-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	17-21	25-40	25-40	28-35	1.35-1.45	0.06-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	21-40	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	40-60	55-75	10-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.10	.24			
68: Penistaja-----	0-2	75-90	0-20	5-10	1.45-1.55	6-20	0.08-0.10	0.0-2.9	0.5-1.0	.20	.20	5	2	134
	2-15	50-70	5-25	20-30	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-1.0	.32	.32			
	15-27	50-70	5-25	20-30	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	27-38	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	38-60	50-70	5-25	20-30	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
Querencia-----	0-2	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.5-1.5	.28	.28	5	3	86
	2-40	50-70	10-25	20-30	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-1.0	.32	.32			
	40-60	55-75	15-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
71: Palon-----	0-6	55-75	15-35	5-15	1.45-1.55	2-6	0.08-0.10	0.0-2.9	1.0-3.0	.15	.24	2	5	56
	6-27	55-75	15-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-1.0	.10	.24			
	27-60	55-75	15-30	5-15	1.45-1.55	2-6	0.02-0.04	0.0-2.9	0.0-0.5	.05	.24			
72: Palon-----	0-2	55-75	15-30	0-15	0.20-1.00	20-60	0.15-0.45	---	60-70	---	---	2	6	48
	2-4	55-75	15-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	1.0-3.0	.10	.24			
	4-10	55-75	15-30	5-15	1.45-1.55	2-6	0.02-0.04	0.0-2.9	0.5-1.5	.05	.24			
	10-32	55-75	15-30	5-15	1.45-1.55	2-6	0.02-0.04	0.0-2.9	0.0-1.0	.05	.24			
	32-53	55-75	15-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.10	.24			
	53-60	55-75	15-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.10	.24			
74: Origo-----	0-7	55-75	15-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	1.0-3.0	.10	.24	2	6	48
	7-28	55-75	15-30	5-15	1.45-1.55	2-6	0.02-0.04	0.0-2.9	0.0-1.0	.05	.24			
	28-60	55-75	15-30	5-15	1.45-1.55	2-6	0.02-0.04	0.0-2.9	0.0-0.5	.05	.24			
Pavo-----	0-9	30-50	30-50	15-25	1.35-1.45	2-6	0.16-0.18	0.0-2.9	1.0-3.0	.37	.37	5	5	56
	9-12	55-75	15-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.5-1.5	.24	.24			
	12-25	55-75	15-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-1.0	.24	.24			
	25-35	55-75	15-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	35-45	55-75	15-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.28	.28			
	45-50	25-75	20-45	28-35	1.35-1.45	0.2-0.6	0.13-0.15	3.0-5.9	0.0-0.5	.15	.32			
	50-60	55-75	15-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.0	.24	.24			
75: Origo-----	0-1	---	---	0-15	0.20-1.00	20-60	0.15-0.45	---	60-70	---	---	2	6	48
	1-6	55-75	15-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	1.0-3.0	.10	.24			
	6-12	55-75	15-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-2.0	.10	.24			
	12-32	55-75	15-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-1.0	.10	.24			
	32-56	55-75	15-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.10	.24			
	56-60	75-90	0-20	5-10	1.45-1.55	6-20	0.04-0.06	0.0-2.9	0.0-0.5	.05	.20			
82: Calaveras-----	0-2	30-50	30-50	10-20	1.35-1.45	0.6-2	0.16-0.18	0.0-2.9	0.5-1.0	.37	.37	2	5	56
	2-6	55-75	15-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.5-1.0	.24	.24			
	6-40	55-75	15-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.10	.24			
	40-60	55-75	15-30	5-15	1.45-1.55	2-6	0.02-0.04	0.0-2.9	0.0-0.5	.05	.24			
83: Calaveras-----	0-6	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	1.0-1.5	.37	.37	2	5	56
	6-12	55-75	15-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.5-1.0	.24	.24			
	12-24	30-75	15-35	10-20	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.10	.24			
	24-60	55-80	5-30	5-15	1.45-1.55	2-6	0.02-0.04	0.0-2.9	0.0-0.5	.05	.24			
Rubble land-----	0-60	---	---	0-0	2.00-2.35	20-99	0.00-0.02	0.0-2.9	0.0-0.1	---	---	--	8	0
85: Redondo-----	0-2	55-75	15-30	5-10	1.55-1.65	2-6	0.10-0.12	0.0-2.9	2.0-5.0	.20	.20	3	3	86
	2-7	55-75	15-30	5-10	1.55-1.65	2-6	0.10-0.12	0.0-2.9	1.0-3.0	.20	.20			
	7-15	55-75	15-30	5-10	1.55-1.65	2-6	0.10-0.12	0.0-2.9	0.5-1.5	.20	.20			
	15-22	55-75	15-30	5-10	1.55-1.65	2-6	0.10-0.12	0.0-2.9	0.0-1.0	.20	.20			
	22-29	55-75	15-30	5-10	1.55-1.65	2-6	0.09-0.10	0.0-2.9	0.0-0.5	.10	.20			
	29-38	55-75	15-30	5-10	1.55-1.65	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.05	.20			
	38-54	55-75	15-30	5-10	1.55-1.65	2-6	0.02-0.04	0.0-2.9	0.0-0.5	.02	.20			
	54-60	55-75	15-30	5-10	1.55-1.65	2-6	0.02-0.04	0.0-2.9	0.0-0.5	.02	.20			
86: Redondo-----	0-8	55-75	15-30	5-10	1.50-1.60	2-6	0.08-0.10	0.0-2.9	1.0-2.0	.10	.20	3	5	56
	8-13	55-75	15-30	5-10	1.50-1.60	2-6	0.05-0.07	0.0-2.9	0.0-1.0	.05	.20			
	13-34	55-75	15-30	5-10	1.50-1.60	2-6	0.02-0.04	0.0-2.9	0.0-0.5	.02	.20			
	34-60	55-75	15-30	5-10	1.50-1.60	2-6	0.02-0.04	0.0-2.9	0.0-0.5	.02	.20			

Table 15.--Physical soil properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	In./hr.	In./in.	Pct.	Pct.					
87: Redondo-----	0-6	30-50	30-50	10-20	1.35-1.45	2-6	0.11-0.13	0.0-2.9	1.0-2.0	.20	.37	3	6	48
	6-13	55-75	15-30	5-10	1.50-1.60	2-6	0.04-0.06	0.0-2.9	0.5-1.5	.05	.20			
	13-60	55-75	15-30	5-10	1.50-1.60	2-6	0.04-0.06	0.0-2.9	0.0-1.0	.05	.20			
Rubble land-----	0-60	---	---	0-0	2.00-2.35	20-99	0.00-0.02	0.0-2.9	0.0-0.1	---	---	--	8	0
88: Totavi-----	0-12	55-75	15-30	5-10	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-1.0	.24	.24	5	3	86
	12-60	75-90	0-20	5-10	1.50-1.60	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.17	.17			
Jemez-----	0-6	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.0	.37	.37	2	5	56
	6-13	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.0	.37	.37			
	13-19	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	19-27	45-65	10-25	20-35	1.35-1.45	0.2-0.6	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	27-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
91: Zia-----	0-16	55-75	15-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	16-22	75-90	0-20	5-10	1.45-1.55	6-20	0.06-0.08	0.0-2.9	0.0-1.0	.17	.17			
	22-35	55-75	15-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	35-60	55-75	15-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
92: Galisteo, moderately saline, sodic-----	0-12	5-20	45-65	30-40	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	1.0-2.0	.37	.37	5	4L	86
	12-60	15-40	20-40	40-50	1.15-1.35	0.06-0.2	0.14-0.16	6.0-8.9	0.0-0.5	.20	.20			
93: Zia-----	0-8	75-85	0-20	5-10	1.45-1.55	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.17	.17	5	2	134
	8-60	55-75	15-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
95: El Rancho-----	0-5	30-50	30-50	18-27	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.0	.37	.37	5	4L	86
	5-20	50-70	5-25	20-27	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	20-38	50-70	5-25	20-27	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	38-60	55-75	15-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
97: El Rancho-----	0-8	25-40	25-40	30-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.5-1.0	.32	.32	5	4L	86
	8-60	45-70	5-25	20-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
100: Orejas-----	0-5	35-50	30-50	15-25	1.35-1.45	0.6-2	0.08-0.10	3.0-5.9	0.5-1.0	.10	.37	1	7	38
	5-15	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.09-0.11	3.0-5.9	0.0-0.5	.10	.32			
	15-19	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.09-0.11	3.0-5.9	0.0-0.5	.10	.32			
	19-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
101: Blancot-----	0-2	55-75	15-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.5-1.0	.28	.28	5	3	86
	2-5	25-40	25-45	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.5-1.0	.32	.32			
	5-14	25-40	25-45	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	14-23	25-40	25-45	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	23-40	55-75	15-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	40-49	10-20	45-60	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.0	.37	.37			
	49-60	55-75	15-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.0	.24	.24			
Lybrook-----	0-1	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.5-1.0	.32	.32	5	4L	86
	1-5	10-20	45-60	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.37	.37			
	5-21	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	21-30	5-20	45-60	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.37	.37			
	30-60	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.14-0.18	3.0-5.9	0.0-0.5	.32	.32			
102: Sparham-----	0-7	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.5-1.5	.32	.32	5	4	86
	7-29	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	29-60	10-40	35-60	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.37	.37			
104: Cochiti-----	0-7	30-50	30-45	15-25	1.35-1.45	0.6-2	0.11-0.13	3.0-5.9	0.5-1.0	.20	.37	4	6	48
	7-12	25-40	25-40	30-40	1.35-1.45	0.2-0.6	0.13-0.15	6.0-8.9	0.5-1.0	.15	.32			
	12-20	10-40	15-40	40-60	1.15-1.35	0.06-0.2	0.06-0.08	6.0-8.9	0.0-0.5	.05	.20			
	20-29	25-40	25-40	30-40	1.35-1.45	0.2-0.6	0.09-0.11	6.0-8.9	0.0-0.5	.10	.32			
	29-60	55-75	10-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.10	.24			

Table 15.--Physical soil properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	In./hr.	In./in.	Pct.	Pct.					
104: Montecito-----	0-3	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.5	.37	.37	5	5	56
	3-9	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.5-1.0	.32	.32			
	9-15	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	15-22	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	22-37	40-75	10-40	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	37-60	55-75	10-35	5-15	1.45-1.55	2-6	0.08-0.10	0.0-2.9	0.0-0.5	.15	.24			
105: Badland-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	4	86
Menefee-----	0-4	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.5	.37	.37	2	4L	86
	4-10	20-40	20-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	10-60	---	---	---	---	0.00-0.02	---	---	---	---	---			
106: Stumble-----	0-4	55-75	10-30	5-15	1.45-1.55	2-6	0.06-0.08	0.0-2.9	0.5-1.0	.10	.28	2	6	48
	4-10	55-75	10-30	5-15	1.45-1.55	2-6	0.09-0.11	0.0-2.9	0.0-1.0	.15	.28			
	10-24	75-90	0-15	5-10	1.45-1.55	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.17	.17			
	24-60	85-100	0-15	0-5	1.55-1.65	20-20	0.01-0.03	0.0-2.9	0.0-0.5	.05	.10			
Stumble, sandy-----	0-4	75-90	0-15	5-10	1.40-1.50	6-20	0.03-0.05	0.0-2.9	0.5-0.9	.10	.20	2	2	134
	4-18	75-90	0-15	5-10	1.45-1.55	6-20	0.06-0.08	0.0-2.9	0.1-0.3	.17	.20			
	18-60	75-100	0-15	1-6	1.45-1.55	20-20	0.01-0.03	0.0-2.9	0.1-0.3	.05	.10			
108: Embudo-----	0-6	55-75	15-30	5-15	1.45-1.55	2-6	0.08-0.09	0.0-2.9	0.0-0.5	.15	.24	3	5	56
	6-30	55-75	15-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	30-60	75-90	0-15	5-10	1.50-1.60	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.17	.17			
109: Embudo-----	0-4	55-75	15-30	5-15	1.45-1.55	2-6	0.08-0.09	0.0-2.9	0.5-1.0	.15	.24	3	5	56
	4-12	55-75	15-30	5-12	1.45-1.55	2-6	0.09-0.11	0.0-2.9	0.5-1.0	.15	.28			
	12-30	55-75	15-30	5-15	1.45-1.55	2-6	0.07-0.09	0.0-2.9	0.0-0.5	.10	.20			
	30-60	75-90	0-15	5-10	1.50-1.60	6-20	0.03-0.05	0.0-2.9	0.0-0.5	.10	.15			
Tijeras-----	0-4	55-75	15-30	5-15	1.45-1.55	2-6	0.09-0.11	0.0-2.9	0.0-1.0	.15	.28	4	5	56
	4-10	50-65	5-25	20-30	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-1.0	.32	.32			
	10-20	50-70	5-25	20-30	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	20-26	55-75	15-30	5-15	1.45-1.55	2-6	0.07-0.09	0.0-2.9	0.0-0.5	.15	.24			
	26-60	55-75	15-30	5-15	1.50-1.60	2-6	0.03-0.05	0.0-2.9	0.0-0.5	.05	.20			
110: Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
Saido-----	0-5	0-30	55-75	15-25	1.15-1.35	0.6-2	0.19-0.21	3.0-5.9	0.5-1.5	.43	.43	2	4L	86
	5-9	0-30	55-75	15-25	1.15-1.35	0.6-2	0.19-0.21	3.0-5.9	0.5-1.0	.43	.43			
	9-15	0-30	55-75	15-25	1.15-1.35	0.6-2	0.19-0.21	3.0-5.9	0.0-1.0	.43	.43			
	15-25	0-30	55-75	15-25	1.15-1.35	0.6-2	0.19-0.21	3.0-5.9	0.0-0.5	.43	.43			
	25-60	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37			
111: Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
Zia-----	0-5	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	5-60	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
112: Tijeras-----	0-3	55-75	10-30	5-15	1.45-1.55	2-6	0.09-0.11	0.0-2.9	0.0-1.0	.15	.28	4	5	56
	3-14	50-70	5-25	20-30	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	14-60	55-75	15-30	5-15	1.45-1.55	2-6	0.09-0.11	0.0-2.9	0.0-0.5	.15	.24			
114: San Mateo-----	0-7	55-75	15-30	10-20	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	7-60	10-75	5-60	15-35	1.35-1.45	0.2-0.6	0.15-0.17	3.0-5.9	0.0-0.5	.32	.32			
Zia-----	0-3	55-75	15-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.5-1.0	.28	.28	5	3	86
	3-60	55-75	15-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
120: Pinavetes-----	0-10	75-90	0-15	5-10	1.45-1.55	6-20	0.08-0.10	0.0-2.9	0.5-1.0	.17	.17	2	2	134
	10-35	90-100	0-10	0-5	1.55-1.65	6-20	0.03-0.05	0.0-2.9	0.0-1.0	.10	.10			
	35-60	90-100	0-10	0-5	1.55-1.65	6-20	0.03-0.05	0.0-2.9	0.0-0.5	.10	.10			
124: Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0

Table 15.--Physical soil properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	In./hr.	In./in.	Pct.	Pct.					
129: Menefee-----	0-5	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.5-1.5	.32	.32	2	4L	86
	5-10	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	10-17	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	17-60	---	---	---	---	0.00-0.02	---	---	---	---	---			
130: Pinavetes-----	0-2	75-90	0-15	5-10	1.45-1.55	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.17	.17	2	2	134
	2-60	75-90	0-10	5-10	1.45-1.55	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.17	.17			
Galisteo, moderately saline, sodic-----	0-2	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	1.0-2.0	.32	.32	5	4L	86
	2-60	20-40	20-40	40-50	1.15-1.35	0.06-0.2	0.14-0.16	6.0-8.9	0.0-0.5	.20	.20			
142: Grieta-----	0-3	55-75	5-25	10-18	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28	5	3	86
	3-11	55-75	5-25	10-18	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
	11-34	50-75	5-25	20-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	34-48	50-75	10-25	20-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	48-60	75-90	0-15	5-10	1.50-1.60	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.17	.17			
143: Clovis-----	0-3	55-75	15-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	1.0-2.0	.28	.28	5	3	86
	3-7	50-65	10-25	20-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.5-1.0	.32	.32			
	7-12	50-65	10-25	20-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	12-22	50-65	10-25	20-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	22-34	50-65	10-25	20-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	34-60	50-65	10-25	20-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
145: Grieta-----	0-7	75-95	0-15	5-10	1.45-1.55	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20	5	2	134
	7-14	50-70	10-25	20-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	14-21	50-70	10-25	20-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	21-38	55-75	10-30	5-15	1.45-1.55	2-6	0.09-0.11	0.0-2.9	0.0-0.5	.20	.20			
	38-50	55-75	10-30	5-15	1.45-1.55	2-6	0.09-0.11	0.0-2.9	0.0-0.5	.20	.20			
	50-60	55-75	10-30	5-15	1.45-1.55	2-6	0.09-0.11	0.0-2.9	0.0-0.5	.20	.20			
Sheppard-----	0-5	75-90	0-15	5-10	1.45-1.55	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20	5	2	134
	5-27	75-90	0-15	5-10	1.45-1.55	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20			
	27-60	75-95	0-15	5-10	1.45-1.55	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20			
146: Sedmar-----	0-3	75-95	0-15	5-10	1.45-1.55	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.17	.17	1	2	134
	3-13	55-75	10-30	5-15	1.45-1.55	6-20	0.11-0.13	0.0-2.9	0.0-1.0	.24	.24			
	13-18	75-95	0-15	5-10	1.45-1.55	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.17	.17			
	18-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
150: Doakum-----	0-5	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.5-1.0	.28	.28	5	3	86
	5-11	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	11-17	50-75	10-30	20-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	17-24	50-75	10-30	20-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	24-31	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	31-44	30-50	30-50	10-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37			
	44-60	30-50	30-50	10-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-0.0	.37	.37			
Betonnies-----	0-2	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.5-1.0	.28	.28	5	3	86
	2-4	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.5-1.0	.28	.28			
	4-12	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
	12-18	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	18-34	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	34-60	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.0	.24	.24			
162: Hackroy-----	0-3	55-75	10-30	10-18	1.45-1.55	2-6	0.11-0.13	0.0-2.9	1.0-2.0	.24	.24	1	3	86
	3-13	15-40	20-40	40-50	1.15-1.35	0.06-0.2	0.14-0.16	6.0-8.9	0.0-0.5	.20	.20			
	13-60	---	---	---	---	0.00-0.02	---	---	---	---	---			
Nyjack-----	0-3	30-50	30-50	20-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.0	.37	.37	3	6	48
	3-13	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	13-24	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	24-39	55-75	10-30	5-15	1.45-1.55	2-6	0.08-0.10	0.0-2.9	0.0-0.5	.15	.24			
	39-60	---	---	---	---	0.00-0.02	---	---	---	---	---			
163: Jemez-----	0-3	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.0	.37	.37	2	5	56
	3-24	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	24-39	50-70	5-25	25-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	39-60	---	---	---	---	0.00-0.01	---	---	---	---	---			

Table 15.--Physical soil properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	In./hr.	In./in.	Pct.	Pct.					
170: San Mateo-----	0-2	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.5	.37	.37	5	4L	86
	2-10	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	10-23	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	23-32	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	32-54	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.15-0.17	3.0-5.9	0.0-0.5	.32	.32			
	54-60	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.15-0.17	3.0-5.9	0.0-0.5	.32	.32			
180: Cuncelor-----	0-2	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28	5	3	86
	2-7	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
	7-37	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
	37-40	25-45	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	40-60	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
Eslando-----	0-3	25-45	30-50	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.5-1.0	.32	.32	2	6	48
	3-10	25-45	30-50	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	10-60	---	---	---	---	0.00-0.02	---	---	---	---	---			
Mesapun-----	0-6	75-90	5-20	2-10	1.45-1.55	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20	5	2	134
	6-60	70-85	5-20	3-8	1.45-1.55	6-20	0.07-0.09	0.0-2.9	0.0-0.5	.17	.17			
183: Sheppard-----	0-4	75-95	0-15	5-10	1.45-1.55	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20	5	2	134
	4-45	75-95	0-15	5-10	1.45-1.55	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20			
	45-60	75-95	0-15	5-10	1.45-1.55	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20			
185: Frijoles-----	0-3	55-75	10-30	5-15	1.40-1.50	2-6	0.15-0.17	0.0-2.9	1.0-2.0	.55	.55	2	3	86
	3-8	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.09-0.11	3.0-5.9	0.0-1.0	.10	.32			
	8-13	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.09-0.11	3.0-5.9	0.0-0.5	.10	.32			
	13-20	55-75	10-30	10-15	1.45-1.55	2-6	0.02-0.04	0.0-2.9	0.0-0.5	.05	.28			
	20-60	55-75	10-30	10-15	1.00-1.10	20-99	0.00-0.01	0.0-2.9	0.0-0.5	---	---			
190: Zia-----	0-5	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	5-28	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-1.0	.24	.24			
	28-60	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
Skyvillage-----	0-2	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	1.0-2.0	.28	.28	1	3	86
	2-11	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-1.0	.28	.28			
	11-16	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
	16-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
191: Sheppard-----	0-3	75-95	0-15	5-10	1.45-1.55	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20	5	2	134
	3-27	75-95	0-15	5-10	1.45-1.55	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20			
	27-60	75-95	0-15	5-10	1.45-1.55	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.20	.20			
200: Sedillo-----	0-4	55-75	10-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	1.0-2.0	.10	.24	2	6	48
	4-13	50-70	5-25	20-30	1.35-1.45	0.6-2	0.06-0.08	3.0-5.9	0.0-1.0	.10	.32			
	13-60	55-75	10-30	5-15	1.50-1.60	2-6	0.02-0.04	0.0-2.9	0.0-0.5	.02	.20			
201: Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
Sedgran-----	0-4	75-95	0-15	5-10	1.50-1.60	6-20	0.01-0.03	0.0-2.9	0.5-1.0	.02	.15	1	8	0
	4-13	75-95	0-15	5-10	1.50-1.60	6-20	0.03-0.05	0.0-2.9	0.0-0.5	.05	.15			
	13-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
206: Pinitos-----	0-4	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.0	.37	.37	5	4	86
	4-10	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	10-27	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	27-39	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	39-60	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
207: Penistaja-----	0-3	55-75	15-30	5-15	1.45-1.55	2-6	0.15-0.17	0.0-2.9	1.0-2.0	.55	.55	5	3	86
	3-29	30-70	5-35	20-30	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-1.0	.32	.32			
	29-60	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
Zia-----	0-5	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.5-1.0	.28	.28	5	3	86
	5-60	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
208: Sedillo-----	0-2	55-75	10-30	5-15	1.45-1.55	2-6	0.06-0.08	0.0-2.9	0.5-1.0	.10	.28	3	6	48
	2-8	50-70	10-30	20-30	1.35-1.45	0.6-2	0.06-0.08	3.0-5.9	0.0-1.0	.10	.32			
	8-12	55-75	10-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.10	.24			
	12-60	55-75	10-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.05	.24			

Table 15.--Physical soil properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	In./hr.	In./in.	Pct.	Pct.					
210: Ildefonso-----	0-3	30-50	30-50	15-25	1.35-1.45	0.6-2	0.07-0.09	3.0-5.9	1.0-2.0	.10	.37	3	7	38
	3-9	30-50	30-50	15-25	1.35-1.45	0.6-2	0.07-0.09	3.0-5.9	0.5-1.0	.10	.37			
	9-60	30-50	30-50	15-25	1.35-1.45	0.6-2	0.07-0.09	3.0-5.9	0.0-0.5	.10	.37			
211: Zia-----	0-5	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	5-14	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-1.0	.24	.24			
	14-33	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	33-46	50-70	10-25	20-30	1.35-1.45	0.6-2	0.14-0.16	0.0-2.9	0.0-0.5	.32	.32			
	46-60	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
Clovis-----	0-5	55-75	10-30	10-17	1.45-1.55	2-6	0.13-0.15	0.0-2.9	1.0-2.0	.28	.28	5	3	86
	5-60	50-70	5-25	20-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
213: Pinavetes-----	0-7	90- 100	0-15	0-5	1.55-1.65	6-20	0.03-0.05	0.0-2.9	0.5-1.0	.10	.10	2	1	220
	7-60	75- 100	0-15	0-5	1.55-1.65	6-20	0.04-0.06	0.0-2.9	0.0-0.5	.10	.10			
Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
215: Ess-----	0-7	55-75	10-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	1.0-2.0	.10	.24	3	8	0
	7-15	55-75	10-30	8-18	1.45-1.55	2-6	0.05-0.07	0.0-2.9	1.0-1.5	.10	.24			
	15-29	50-70	10-25	20-30	1.35-1.45	0.6-2	0.06-0.08	3.0-5.9	0.5-1.0	.10	.32			
	29-60	30-50	30-50	10-20	1.35-1.45	0.6-2	0.08-0.10	0.0-2.9	0.0-0.5	.10	.37			
Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
217: Witt-----	0-2	30-50	30-50	10-20	1.35-1.45	0.6-2	0.16-0.18	0.0-2.9	0.5-1.0	.37	.37	5	5	56
	2-9	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37			
	9-60	35-70	10-50	10-20	1.35-1.45	0.6-2	0.16-0.18	0.0-2.9	0.0-0.5	.55	.55			
218: Ildefonso-----	0-4	30-50	30-50	15-25	1.35-1.45	0.6-6	0.08-0.10	3.0-5.9	1.0-2.0	.10	.37	3	7	38
	4-8	30-50	30-50	15-25	1.35-1.45	0.6-6	0.08-0.10	3.0-5.9	0.5-1.0	.10	.37			
	8-60	55-75	10-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.10	.24			
220: Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
Vessilla-----	0-2	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.5-1.0	.24	.24	1	3	86
	2-10	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	10-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
Menefee-----	0-2	25-40	20-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.5-1.5	.32	.32	2	4L	86
	2-10	25-40	20-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	10-60	---	---	---	---	0.00-0.02	---	---	---	---	---			
226: Galisteo, moderately saline, sodic-----	0-10	30-50	30-50	20-27	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	1.0-2.0	.37	.37	5	4L	86
	10-60	10-20	40-60	35-40	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.37	.37			
227: Hagerman-----	0-4	55-75	10-30	10-20	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.5-1.0	.28	.28	2	3	86
	4-34	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	34-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
Bond-----	0-4	75-95	0-25	4-9	1.45-1.55	6-20	0.08-0.10	0.0-2.9	0.5-1.0	.20	.20	1	2	134
	4-12	50-70	10-25	20-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.5-1.0	.32	.32			
	12-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
228: Winona-----	0-2	55-75	10-30	5-15	1.45-1.55	2-6	0.03-0.05	0.0-2.9	1.0-2.0	.05	.28	1	6	48
	2-13	30-50	30-50	15-25	1.35-1.45	0.6-2	0.08-0.10	3.0-5.9	0.0-1.0	.10	.37			
	13-60	---	---	---	---	0.00-0.2	---	---	---	---	---			
230: Skyvillage-----	0-6	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	1.0-2.0	.24	.24	1	3	86
	6-11	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-1.0	.24	.24			
	11-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
Sandoval-----	0-2	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	1.0-2.0	.32	.32	2	4L	86
	2-10	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	10-60	---	---	---	---	0.00-0.02	---	---	---	---	---			
Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0

Table 15.--Physical soil properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	In./hr.	In./in.	Pct.	Pct.					
231: Querencia-----	0-3	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.5	.37	.37	5	4L	86
	3-21	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-1.0	.37	.37			
	21-60	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37			
234: Querencia-----	0-3	55-75	10-30	10-20	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.5-1.5	.28	.28	5	3	86
	3-25	30-50	30-50	20-27	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-1.0	.37	.37			
	25-60	30-70	10-50	12-20	1.40-1.50	0.6-2	0.14-0.16	0.0-2.9	0.0-0.5	.32	.32			
Zia-----	0-11	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	11-60	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
235: Sandoval-----	0-2	55-75	10-30	10-18	1.45-1.55	2-6	0.13-0.15	0.0-2.9	1.0-2.0	.28	.28	2	3	86
	2-16	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	16-19	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	19-60	---	---	---	---	0.00-0.02	---	---	---	---	---			
236: Sparank, moderately saline, sodic-----	0-2	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	1.0-2.0	.32	.32	5	4L	86
	2-10	0-15	40-55	40-50	1.20-1.30	0.06-0.2	0.15-0.17	6.0-8.9	0.5-1.5	.24	.24			
	10-24	0-15	40-55	40-50	1.20-1.30	0.06-0.2	0.15-0.17	6.0-8.9	0.5-1.0	.24	.24			
	24-40	10-20	45-65	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.37	.37			
	40-44	0-15	40-55	40-50	1.20-1.30	0.06-0.2	0.15-0.17	6.0-8.9	0.0-0.5	.24	.24			
	44-60	0-15	40-55	40-50	1.20-1.30	0.06-0.2	0.15-0.17	6.0-8.9	0.0-0.5	.24	.24			
237: Sparank-----	0-4	10-20	45-60	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	1.0-2.0	.37	.37	5	4L	86
	4-60	10-20	45-60	28-35	1.15-1.35	0.06-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.37	.37			
240: Penistaja-----	0-5	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	1.0-2.0	.28	.28	5	3	86
	5-14	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.5-1.5	.32	.32			
	14-29	50-70	10-25	20-30	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-1.0	.32	.32			
	29-60	30-75	10-50	15-25	1.40-1.50	0.6-2	0.14-0.16	0.0-2.9	0.0-0.5	.32	.32			
Hagerman-----	0-2	55-75	10-30	10-20	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.5-1.0	.28	.28	2	3	86
	2-9	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	9-24	25-40	25-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	24-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
250: Pinavetes-----	0-4	75-95	0-15	5-10	1.45-1.55	6-20	0.08-0.10	0.0-2.9	0.5-1.0	.20	.20	2	2	134
	4-60	75-95	10-20	3-7	1.45-1.55	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.17	.17			
262: Pastura-----	0-3	30-50	30-50	20-27	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	1.0-2.0	.37	.37	1	4L	86
	3-10	30-50	30-50	20-27	1.35-1.45	0.6-2	0.11-0.13	3.0-5.9	0.0-1.5	.20	.37			
	10-14	30-50	30-50	20-27	1.35-1.45	0.6-2	0.11-0.13	3.0-5.9	0.0-0.5	.20	.37			
	14-60	---	---	---	---	0.00-0.6	---	---	---	---	---			
270: Blancot-----	0-2	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.5-1.0	.28	.28	5	3	86
	2-12	50-70	10-25	20-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	12-21	20-40	20-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	21-60	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
Councilor-----	0-2	55-75	10-30	5-15	1.50-1.60	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28	5	3	86
	2-60	55-75	10-30	5-15	1.50-1.60	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
Tsowie-----	0-2	20-45	20-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.5-1.5	.32	.32	5	4L	86
	2-10	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.0	.37	.37			
	10-20	20-40	20-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	20-26	20-40	20-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	26-36	20-40	20-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	36-44	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	44-55	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	55-60	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
281: Carjo-----	0-4	30-50	30-50	10-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	2.0-4.0	.37	.37	2	5	56
	4-12	20-40	20-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	1.0-1.5	.32	.32			
	12-20	20-40	15-40	40-50	1.15-1.35	0.06-0.2	0.14-0.16	6.0-8.9	0.0-0.5	.20	.20			
	20-25	55-75	10-30	5-10	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.55	.55			
	25-60	---	---	---	---	0.00-0.01	---	---	---	---	---			

Table 15.--Physical soil properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	In./hr.	In./in.	Pct.	Pct.					
282: Tocal-----	0-5	55-75	10-30	5-15	1.45-1.55	0.6-2	0.15-0.17	0.0-2.9	1.0-2.0	.55	.55	2	3	86
	5-8	20-40	20-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.5-1.0	.32	.32			
	8-11	15-40	10-35	40-50	1.15-1.35	0.06-0.2	0.14-0.16	6.0-8.9	0.0-1.0	.20	.20			
	11-14	15-35	50-70	15-25	1.15-1.35	0.6-2	0.19-0.21	3.0-5.9	0.0-0.5	.43	.43			
	14-60	---	---	---	---	0.00-0.02	---	---	---	---	---			
283: Mirand-----	0-2	30-50	30-50	20-27	0.20-1.00	20-60	0.15-0.45	---	60-70	---	---	5	5	56
	2-6	30-50	30-50	20-27	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	1.0-3.0	.37	.37			
	6-11	20-40	20-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.5-1.5	.32	.32			
	11-17	20-40	20-40	28-35	1.35-1.45	0.2-0.6	0.17-0.19	3.0-5.9	0.0-1.0	.20	.32			
	17-27	20-40	20-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	27-47	15-40	10-40	40-55	1.15-1.35	0.2-0.6	0.14-0.16	6.0-8.9	0.0-0.5	.20	.20			
	47-60	20-40	20-40	28-35	1.35-1.45	0.01-0.06	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
Alanos-----	0-6	30-50	30-50	15-25	1.35-1.45	0.6-2	0.11-0.13	3.0-5.9	0.5-1.0	.20	.37	3	7	38
	6-9	30-50	30-50	15-25	1.35-1.45	0.6-2	0.11-0.13	3.0-5.9	0.0-0.5	.20	.37			
	9-30	20-40	20-40	28-35	1.35-1.45	0.2-0.6	0.05-0.07	3.0-5.9	0.0-0.5	.05	.32			
	30-60	10-40	20-40	40-50	1.15-1.35	0.06-0.2	0.07-0.09	6.0-8.9	0.0-0.5	.05	.20			
290: Alanos-----	0-4	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.0	.37	.37	3	6	48
	4-9	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.0	.37	.37			
	9-18	30-50	30-50	15-25	1.35-1.45	0.6-2	0.07-0.09	3.0-5.9	0.0-0.5	.10	.37			
	18-26	10-40	20-40	40-50	1.15-1.25	0.06-0.2	0.04-0.06	6.0-8.9	0.0-0.5	.02	.20			
	26-60	10-30	20-40	40-50	1.15-1.25	0.06-0.2	0.04-0.06	6.0-8.9	0.0-0.5	.02	.20			
Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
300: Waumac-----	0-3	75-95	0-15	5-10	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.17	.17	5	2	134
	3-31	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
	31-60	55-75	10-30	5-15	1.45-1.55	2-6	0.09-0.10	0.0-2.9	0.0-0.5	.15	.28			
Bamac-----	0-6	75-95	0-15	5-10	1.55-1.65	6-20	0.04-0.06	0.0-2.9	0.5-1.0	.10	.17	3	4	86
	6-60	75- 100	0-20	5-10	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.17			
301: Vastine-----	0-4	10-35	50-75	15-25	1.15-1.35	0.6-2	0.19-0.21	3.0-5.9	2.0-4.0	.43	.43	4	6	48
	4-11	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-2.0	.37	.37			
	11-24	30-50	30-50	15-25	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-1.0	.37	.37			
	24-60	75-95	0-15	5-10	1.45-1.55	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.17			
Jarola-----	0-9	10-35	50-75	15-25	1.15-1.35	0.6-2	0.19-0.21	3.0-5.9	1.0-3.0	.43	.43	5	5	56
	9-11	10-35	50-75	15-25	1.15-1.35	0.6-2	0.19-0.21	3.0-5.9	0.5-1.5	.43	.43			
	11-17	10-20	45-60	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.5-1.0	.37	.37			
	17-21	30-50	30-50	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	21-42	50-70	10-25	20-30	1.35-1.45	0.6-2	0.11-0.13	3.0-5.9	0.0-0.5	.15	.32			
	42-60	55-75	10-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.10	.24			
302: Tranquilar-----	0-4	5-20	40-65	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	2.0-4.0	.37	.37	5	7	38
	4-8	5-20	40-65	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	1.0-2.0	.37	.37			
	8-11	5-20	40-65	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.5-1.5	.37	.37			
	11-13	5-20	40-65	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.5	.37	.37			
	13-20	10-40	15-40	40-60	1.15-1.35	0.06-0.2	0.14-0.16	6.0-8.9	0.0-1.0	.20	.20			
	20-34	10-40	15-40	40-60	1.15-1.35	0.06-0.2	0.14-0.16	6.0-8.9	0.0-0.5	.20	.20			
	34-42	10-40	15-40	40-60	1.15-1.35	0.06-0.2	0.14-0.16	6.0-8.9	0.0-0.5	.20	.20			
	42-50	10-40	15-40	40-60	1.15-1.35	0.06-0.2	0.14-0.16	6.0-8.9	0.0-0.5	.20	.20			
	50-60	10-40	15-40	40-60	1.15-1.35	0.06-0.2	0.14-0.16	6.0-8.9	0.0-0.5	.20	.20			
Jarmillo-----	0-4	30-50	30-50	10-20	1.35-1.45	0.6-2	0.16-0.18	0.0-2.9	2.0-4.0	.37	.37	5	5	56
	4-13	30-50	30-50	10-20	1.35-1.45	0.6-2	0.16-0.18	0.0-2.9	1.0-2.0	.37	.37			
	13-20	30-50	30-50	10-20	1.35-1.45	0.6-2	0.16-0.18	0.0-2.9	0.5-1.0	.37	.37			
	20-26	30-50	30-50	10-20	1.35-1.45	0.6-2	0.16-0.18	0.0-2.9	0.0-0.5	.37	.37			
	26-36	30-50	30-50	10-20	1.35-1.45	0.6-2	0.16-0.18	0.0-2.9	0.0-0.5	.37	.37			
	36-41	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
	41-51	20-40	20-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	51-60	55-75	10-30	8-18	1.45-1.55	2-6	0.15-0.17	0.0-2.9	0.0-0.5	.55	.55			
304: Cosey-----	0-9	10-35	50-75	15-25	1.15-1.35	0.6-2	0.19-0.21	3.0-5.9	1.0-3.0	.43	.43	4	5	56
	9-15	10-35	50-75	15-25	1.15-1.35	0.6-2	0.19-0.21	3.0-5.9	1.0-1.5	.43	.43			
	15-28	30-50	30-50	10-20	1.35-1.45	0.6-2	0.11-0.13	0.0-2.9	0.0-1.0	.20	.37			
	28-34	50-75	5-25	20-35	1.35-1.45	0.6-2	0.06-0.08	3.0-5.9	0.0-0.5	.10	.32			
	34-60	20-40	20-40	28-35	1.35-1.45	0.2-0.6	0.05-0.07	3.0-5.9	0.0-0.5	.05	.32			
Jarmillo-----	0-17	10-35	50-75	15-25	1.15-1.35	0.6-2	0.19-0.21	3.0-5.9	2.0-4.0	.43	.43	5	5	56
	17-33	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.5-2.0	.24	.24			
	33-60	30-75	10-40	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			

Table 15.--Physical soil properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	In./hr.	In./in.	Pct.	Pct.					
307: Flugle-----	0-3	30-50	30-50	10-20	1.35-1.45	0.6-2	0.16-0.18	0.0-2.9	1.0-3.0	.37	.37	5	5	56
	3-7	50-75	10-25	20-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	7-12	50-75	10-25	20-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	12-19	50-75	10-25	20-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	19-60	55-75	10-30	10-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.0	.28	.28			
Waumac-----	0-3	75-95	0-15	5-10	1.45-1.55	6-20	0.06-0.08	0.0-2.9	0.5-1.0	.17	.17	5	2	134
	3-60	55-75	10-30	5-15	1.45-1.55	2-6	0.12-0.14	0.0-2.9	0.0-0.5	.28	.28			
308: Cajete-----	0-7	30-50	30-50	15-25	1.35-1.45	0.6-2	0.12-0.14	3.0-5.9	1.0-2.0	.20	.37	3	6	48
	7-15	30-50	30-50	15-25	1.35-1.45	0.6-2	0.12-0.14	3.0-5.9	1.0-1.5	.20	.37			
	15-33	55-75	10-30	5-15	1.45-1.55	2-6	0.06-0.08	0.0-2.9	0.5-1.0	.10	.24			
	33-45	90-100	0-10	0-5	1.55-1.65	6-20	0.01-0.03	0.0-2.9	0.5-1.0	.02	.10			
	45-49	90-100	0-10	0-5	1.55-1.65	6-20	0.01-0.03	0.0-2.9	0.0-0.5	.02	.10			
	49-60	90-100	0-10	0-5	1.55-1.65	6-20	0.01-0.03	0.0-2.9	0.0-0.5	.02	.10			
311: Cosey-----	0-13	10-35	50-75	15-25	1.15-1.35	0.6-2	0.19-0.21	3.0-5.9	1.0-3.0	.43	.43	4	5	56
	13-24	30-50	30-50	10-20	1.35-1.45	0.6-2	0.11-0.13	0.0-2.9	0.0-0.5	.20	.37			
	24-60	20-40	20-40	28-35	1.35-1.45	0.2-0.6	0.04-0.06	3.0-5.9	0.0-0.5	.05	.32			
Tranquilar-----	0-14	10-35	50-75	15-25	1.15-1.35	0.6-2	0.19-0.21	3.0-5.9	2.0-4.0	.43	.43	5	5	56
	14-20	10-35	50-75	15-25	1.15-1.35	0.6-2	0.19-0.21	3.0-5.9	0.0-2.0	.43	.43			
	20-42	10-40	10-40	40-60	1.15-1.35	0.06-0.2	0.14-0.16	6.0-8.9	0.0-1.0	.20	.20			
	42-60	10-40	10-40	40-60	1.15-1.35	0.06-0.2	0.14-0.16	6.0-8.9	0.0-0.5	.20	.20			
Calaveras-----	0-4	10-35	50-75	15-25	1.15-1.35	0.6-2	0.19-0.21	3.0-5.9	1.0-1.5	.43	.43	3	5	56
	4-11	10-35	50-75	15-25	1.15-1.35	0.6-2	0.19-0.21	3.0-5.9	0.5-1.0	.43	.43			
	11-17	10-35	50-75	15-25	1.15-1.35	0.6-2	0.15-0.17	3.0-5.9	0.0-1.0	.24	.43			
	17-30	30-50	30-50	10-20	1.35-1.45	0.6-2	0.07-0.09	0.0-2.9	0.0-0.5	.10	.37			
	30-39	55-75	10-30	5-15	1.45-1.55	2-6	0.02-0.04	0.0-2.9	0.0-0.5	.02	.20			
	39-60	75-95	0-15	5-10	1.45-1.55	6-20	0.01-0.03	0.0-2.9	0.0-0.5	.02	.17			
312: Royosa-----	0-5	90-100	0-15	0-5	1.55-1.65	20-20	0.03-0.05	0.0-2.9	1.0-2.0	.10	.10	2	1	220
	5-16	90-100	0-15	0-5	1.55-1.65	20-20	0.03-0.05	0.0-2.9	0.5-1.5	.10	.10			
	16-60	75-95	5-20	0-10	1.50-1.60	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.17	.17			
314: Fragua-----	0-3	75-95	0-15	5-10	1.50-1.60	6-20	0.07-0.09	0.0-2.9	1.0-2.0	.17	.17	5	2	134
	3-8	55-75	10-30	10-18	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	8-24	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	24-60	55-75	10-30	10-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
Waumac-----	0-3	75-95	0-15	5-10	1.45-1.55	6-20	0.08-0.10	0.0-2.9	0.5-1.0	.20	.20	5	2	134
	3-60	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
Royosa-----	0-7	90-100	0-10	0-5	1.55-1.65	6-20	0.05-0.07	0.0-2.9	1.0-2.0	.17	.17	2	1	220
	7-60	90-100	0-10	0-5	1.55-1.65	6-20	0.05-0.07	0.0-2.9	0.0-1.0	.17	.17			
317: Elpedro-----	0-2	30-50	30-50	15-22	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.0	.37	.37	5	5	56
	2-22	0-20	50-70	28-35	1.15-1.35	0.2-0.6	0.19-0.21	3.0-5.9	0.0-0.5	.37	.37			
	22-60	30-50	30-50	20-27	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.0-0.5	.37	.37			
319: Bamac-----	0-4	75-90	0-15	5-10	1.50-1.60	6-20	0.03-0.05	0.0-2.9	0.5-1.0	.05	.17	4	5	56
	4-10	75-90	0-15	5-10	1.50-1.60	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.17	.17			
	10-21	75-95	0-15	5-10	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.15			
	21-37	75-95	0-15	5-10	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.15			
	37-60	75-95	0-15	5-10	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.15			
Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
320: Sparham-----	0-9	10-35	50-75	15-25	1.15-1.35	0.6-2	0.19-0.21	3.0-5.9	0.5-1.5	.43	.43	5	6	48
	9-32	0-20	40-55	40-50	1.20-1.30	0.06-0.2	0.15-0.17	6.0-8.9	0.0-1.0	.24	.24			
	32-60	0-20	40-55	40-50	1.20-1.30	0.06-0.2	0.15-0.17	6.0-8.9	0.0-0.5	.24	.24			
321: Waumac-----	0-3	75-95	0-15	5-10	1.50-1.60	6-20	0.08-0.10	0.0-2.9	0.5-1.0	.20	.20	5	2	134
	3-60	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			

Table 15.--Physical soil properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	In./hr.	In./in.	Pct.	Pct.					
321: Royosa-----	0-12	90- 100	0-15	0-5	1.55-1.65	6-20	0.05-0.07	0.0-2.9	1.0-2.0	.17	.17	2	1	220
	12-60	90- 100	0-15	0-5	1.55-1.65	6-20	0.05-0.07	0.0-2.9	0.0-1.0	.17	.17			
322: Fragua-----	0-3	55-75	10-30	10-15	1.45-1.55	2-6	0.06-0.08	0.0-2.9	1.0-2.0	.10	.28	5	6	48
	3-16	55-75	10-30	10-18	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
	16-45	75-90	0-15	5-10	1.50-1.60	6-20	0.08-0.10	0.0-2.9	0.0-0.5	.17	.17			
	45-60	---	---	---	---	0.00-0.02	---	---	---	---	---			
324: Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
Atarque-----	0-3	55-75	10-30	10-18	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.5-1.0	.24	.24	1	3	86
	3-9	50-75	5-20	25-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	9-14	50-75	5-20	25-35	1.35-1.45	0.6-2	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	14-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
Menefee-----	0-2	30-50	30-50	20-27	1.35-1.45	0.6-2	0.16-0.18	3.0-5.9	0.5-1.5	.20	.37	1	4L	86
	2-9	20-40	20-40	28-35	1.35-1.45	0.2-0.6	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	9-60	---	---	---	---	0.00-0.02	---	---	---	---	---			
325: Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
Espiritu-----	0-2	55-75	10-30	5-15	1.45-1.55	2-6	0.06-0.08	0.0-2.9	1.0-2.0	.10	.28	3	6	48
	2-20	50-70	5-25	25-35	1.35-1.45	0.6-2	0.07-0.09	3.0-5.9	0.0-0.5	.10	.32			
	20-60	30-50	30-50	15-25	1.35-1.45	0.6-2	0.08-0.10	3.0-5.9	0.0-0.5	.10	.37			
Vessilla-----	0-1	55-75	10-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.5-1.0	.10	.24	1	6	48
	1-10	30-50	30-50	10-20	1.35-1.45	0.6-2	0.11-0.13	0.0-2.9	0.0-0.5	.20	.37			
	10-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
342: Waumac-----	0-5	75-90	0-15	5-10	1.45-1.55	6-20	0.08-0.10	0.0-2.9	0.5-1.0	.20	.20	5	2	134
	5-60	55-75	10-30	5-15	1.45-1.55	2-6	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
Vessilla-----	0-3	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.5-1.0	.28	.28	1	3	86
	3-13	55-75	10-30	5-15	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
	13-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
345: Espiritu-----	0-6	55-75	10-30	5-15	1.45-1.55	2-6	0.06-0.08	0.0-2.9	1.0-2.0	.10	.28	3	6	48
	6-15	50-70	5-25	25-35	1.35-1.45	0.6-2	0.07-0.09	3.0-5.9	0.0-0.5	.10	.32			
	15-22	50-70	5-25	20-30	1.35-1.45	0.6-2	0.07-0.09	3.0-5.9	0.0-0.5	.10	.32			
	22-29	50-70	5-25	20-30	1.35-1.45	0.6-2	0.06-0.08	3.0-5.9	0.0-0.5	.10	.32			
	29-38	50-70	5-25	20-30	1.35-1.45	0.6-2	0.06-0.08	3.0-5.9	0.0-0.5	.10	.32			
	38-46	---	---	10-20	1.45-1.55	2-6	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
	46-60	55-75	10-30	10-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-0.0	.10	.24			
Bamac-----	0-3	75-90	0-15	5-10	1.55-1.65	6-20	0.02-0.03	0.0-2.9	0.5-1.0	.05	.17	4	5	56
	3-30	75-90	0-15	5-10	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.17			
	30-60	75-90	0-15	5-10	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.17			
346: Espiritu, cobbly----	0-2	55-75	10-30	5-15	1.45-1.55	2-6	0.02-0.04	0.0-2.9	1.0-2.0	.05	.24	3	8	0
	2-24	50-70	5-25	25-35	1.35-1.45	0.6-2	0.07-0.09	3.0-5.9	0.0-0.5	.10	.32			
	24-36	55-75	10-30	10-18	1.45-1.55	2-6	0.02-0.04	0.0-2.9	0.0-0.5	.10	.24			
	36-60	75-90	0-15	5-10	1.45-1.55	6-20	0.04-0.06	0.0-2.9	0.0-0.5	.05	.17			
Bamac-----	0-3	75-90	0-15	5-10	1.55-1.65	6-20	0.02-0.03	0.0-2.9	0.5-1.0	.05	.17	3	5	56
	3-30	75- 100	0-20	5-10	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
	30-45	75-90	0-15	5-10	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.17	.17			
	45-60	75-90	0-15	5-10	1.55-1.65	6-20	0.02-0.04	0.0-2.9	0.0-0.5	.05	.17			
348: Wauquie-----	0-2	50-70	5-25	20-30	1.35-1.45	0.6-2	0.03-0.05	3.0-5.9	0.5-1.0	.05	.32	3	6	48
	2-16	20-40	20-40	28-35	1.35-1.45	0.2-0.6	0.09-0.11	3.0-5.9	0.0-0.5	.10	.32			
	16-40	55-75	10-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-0.5	.10	.24			
	40-60	75-90	0-15	5-10	1.45-1.55	6-20	0.03-0.04	0.0-2.9	0.0-0.5	.02	.17			
Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
353: Cochiti-----	0-4	30-50	30-50	15-25	1.35-1.45	0.6-2	0.02-0.04	3.0-5.9	0.5-1.0	.05	.37	4	8	0
	4-22	20-40	20-40	30-40	1.35-1.45	0.2-0.6	0.09-0.11	3.0-5.9	0.0-0.5	.10	.32			
	22-60	75-90	0-15	5-10	1.45-1.55	6-20	0.04-0.06	0.0-2.9	0.0-0.5	.05	.17			

Table 15.--Physical soil properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	In./hr.	In./in.	Pct.	Pct.					
353: Espiritu-----	0-3 3-16 16-60	30-50 50-70 75-90	30-50 5-25 0-15	15-25 25-35 5-10	1.35-1.45 1.35-1.45 1.50-1.60	0.6-2 0.6-2 6-20	0.07-0.09 0.06-0.08 0.02-0.04	3.0-5.9 3.0-5.9 0.0-2.9	1.0-2.0 0.0-0.5 0.0-0.5	.10 .10 .02	.37 .32 .17	3	8	0
354: Waumac Variant----	0-3 3-12 12-60	55-80 55-80 ---	10-30 10-30 ---	5-15 5-15 ---	1.45-1.55 1.45-1.55 ---	2-6 2-6 0.00-0.01	0.05-0.07 0.05-0.07 ---	0.0-2.9 0.0-2.9 ---	0.5-1.0 0.0-0.5 ---	.10 .10 ---	.24 .24 ---	2	6	48
358: Deama-----	0-3 3-19 19-60	30-50 30-50 ---	30-50 30-50 ---	18-27 18-27 ---	1.35-1.45 1.35-1.45 ---	0.6-2 0.6-2 0.00-0.2	0.06-0.08 0.06-0.08 ---	3.0-5.9 3.0-5.9 ---	1.0-3.0 0.5-1.0 ---	.10 .10 ---	.37 .37 ---	1	6	48
Elpedro-----	0-3 3-37 37-60	30-50 0-20 10-50	30-50 50-70 30-80	15-22 28-35 20-27	1.35-1.45 1.15-1.35 1.35-1.45	0.6-2 0.2-0.6 0.6-2	0.08-0.10 0.19-0.21 0.16-0.18	3.0-5.9 3.0-5.9 3.0-5.9	0.5-1.0 0.0-0.5 0.0-0.5	.10 .37 .37	.37 .37 .37	5	7	38
Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
396: Atarque-----	0-2 2-16 16-60	55-75 20-40 ---	10-30 20-40 ---	10-18 25-35 ---	1.45-1.55 1.35-1.45 ---	2-6 0.2-0.6 0.00-0.01	0.11-0.13 0.19-0.21 ---	0.0-2.9 3.0-5.9 ---	0.5-1.0 0.0-0.5 ---	.05 .32 ---	.24 .32 ---	1	8	0
Menefee-----	0-2 2-14 14-60	20-40 20-40 ---	20-40 20-40 ---	28-35 28-35 ---	1.35-1.45 1.35-1.45 ---	0.2-0.6 0.2-0.6 0.00-0.02	0.13-0.15 0.19-0.21 ---	3.0-5.9 3.0-5.9 ---	0.5-1.5 0.0-0.5 ---	.20 .32 ---	.32 .32 ---	2	4L	86
Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
397: Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
Cucho-----	0-2 2-9 9-37 37-60	20-40 20-40 20-40 ---	20-45 20-45 20-45 ---	28-35 28-35 28-35 ---	1.35-1.45 1.35-1.45 1.35-1.45 ---	0.2-0.6 0.2-0.6 0.2-0.6 0.00-0.02	0.09-0.11 0.19-0.21 0.09-0.11 ---	3.0-5.9 3.0-5.9 3.0-5.9 ---	0.5-1.0 0.0-0.5 0.0-0.5 ---	.10 .32 .10 ---	.32 .32 .32 ---	3	8	0
Vessilla-----	0-2 2-11 11-60	55-75 55-75 ---	10-30 10-30 ---	5-15 5-15 ---	1.45-1.55 1.45-1.55 ---	2-6 2-6 0.00-0.01	0.09-0.10 0.09-0.10 ---	0.0-2.9 0.0-2.9 ---	0.5-1.0 0.0-0.5 ---	.15 .15 ---	.28 .28 ---	1	5	56
398: Espiritu-----	0-4 4-24 24-60	55-75 50-70 55-75	10-30 5-25 10-30	10-18 25-35 10-15	1.45-1.55 1.35-1.45 1.45-1.55	2-6 0.6-2 2-6	0.07-0.09 0.07-0.09 0.02-0.04	0.0-2.9 3.0-5.9 0.0-2.9	1.0-2.0 0.0-0.5 0.0-0.5	.10 .10 .05	.28 .32 .24	3	6	48
Cucho-----	0-2 2-37 37-60	20-40 0-20 ---	20-45 45-65 ---	28-35 28-35 ---	1.35-1.45 1.15-1.35 ---	0.2-0.6 0.2-0.6 0.00-0.02	0.10-0.12 0.19-0.21 ---	3.0-5.9 3.0-5.9 ---	0.5-1.0 0.0-0.5 ---	.10 .37 ---	.32 .37 ---	3	8	0
399: Cucho-----	0-2 2-37 37-60	20-40 20-40 ---	20-45 20-45 ---	28-35 28-35 ---	1.35-1.45 1.35-1.45 ---	0.2-0.6 0.2-0.6 0.00-0.02	0.10-0.12 0.19-0.21 ---	3.0-5.9 3.0-5.9 ---	0.5-1.0 0.0-0.5 ---	.10 .32 ---	.32 .32 ---	3	8	0
Teco-----	0-1 1-7 7-23 23-40 40-45 45-60	55-75 45-60 10-40 10-40 55-75 50-70	10-30 0-15 15-40 15-45 10-30 10-30	5-15 35-55 40-50 40-50 5-15 20-30	1.45-1.55 1.35-1.45 1.15-1.35 1.15-1.35 1.45-1.55 1.35-1.45	2-6 0.2-0.6 0.06-0.2 0.06-0.2 2-6 0.6-2	0.06-0.08 0.15-0.17 0.14-0.16 0.14-0.16 0.06-0.08 0.09-0.11	0.0-2.9 6.0-8.9 6.0-8.9 6.0-8.9 0.0-2.9 3.0-5.9	0.5-1.5 0.5-1.0 0.0-1.0 0.0-0.5 0.0-0.5 0.0-0.5	.10 .32 .20 .20 .10 .15	.28 .32 .20 .20 .28 .32	5	6	48
405: Charo-----	0-5 5-12 12-15 15-25 25-28 28-60	30-50 10-30 10-30 10-30 10-30 ---	30-50 20-40 20-40 20-40 20-40 ---	20-27 40-60 40-60 40-60 40-60 ---	1.35-1.45 1.15-1.35 1.15-1.35 1.15-1.35 1.15-1.35 ---	0.6-2 0.06-0.2 0.06-0.2 0.06-0.2 0.06-0.2 0.00-0.01	0.11-0.13 0.14-0.16 0.14-0.16 0.14-0.16 0.14-0.16 ---	3.0-5.9 6.0-8.9 6.0-8.9 6.0-8.9 6.0-8.9 ---	0.5-1.0 0.5-1.0 0.0-0.5 0.0-0.5 0.0-0.5 ---	.20 .20 .20 .20 .20 ---	.37 .20 .20 .20 .20 ---	2	8	0
Charo, noncobbly----	0-8 8-38 38-60	30-50 10-30 ---	30-50 20-40 ---	20-27 40-60 ---	1.30-1.40 1.35-1.45 ---	0.6-2 0.06-0.2 0.00-0.01	0.16-0.18 0.15-0.18 ---	0.0-2.9 3.0-5.9 ---	0.5-0.9 0.1-0.3 ---	.37 .28 ---	.43 .28 ---	2	6	48
409: Santa Fe-----	0-3 3-8 8-60	55-75 50-75 ---	10-30 10-25 ---	10-15 20-35 ---	1.45-1.55 1.35-1.45 ---	2-6 0.6-2 0.00-0.01	0.05-0.07 0.06-0.08 ---	0.0-2.9 3.0-5.9 ---	1.0-2.0 0.0-1.0 ---	.10 .10 ---	.24 .32 ---	1	6	48

Table 15.--Physical soil properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	In./hr.	In./in.	Pct.	Pct.					
410: Zia-----	0-10 10-60	30-50 55-75	30-50 10-30	10-20 5-15	1.35-1.45 1.45-1.55	0.6-2 2-6	0.16-0.18 0.12-0.14	0.0-2.9 0.0-2.9	0.5-1.0 0.0-0.5	.37 .28	.37 .28	5	4L	86
414: Wauquie-----	0-3 3-30 30-60	55-75 50-70 55-90	10-30 10-25 5-35	5-15 20-30 5-10	1.45-1.55 1.35-1.45 1.50-1.60	2-6 0.6-2 6-20	0.06-0.08 0.06-0.08 0.04-0.06	0.0-2.9 3.0-5.9 0.0-2.9	0.5-1.0 0.0-0.5 0.0-0.5	.10 .10 .05	.28 .32 .20	3	6	48
417: Jocity-----	0-10 10-26 26-32 32-50 50-56 56-60	30-50 5-20 30-50 50-70 55-75 75-90	30-50 45-65 30-50 10-25 15-30 0-20	15-25 28-35 15-25 20-30 5-15 5-10	1.35-1.45 1.15-1.35 1.35-1.45 1.35-1.45 1.45-1.55 1.45-1.55	0.6-2 0.2-0.6 0.6-2 0.6-2 2-6 6-20	0.16-0.18 0.19-0.21 0.16-0.18 0.14-0.16 0.11-0.13 0.07-0.09	3.0-5.9 3.0-5.9 3.0-5.9 3.0-5.9 0.0-2.9 0.0-2.9	0.5-1.0 0.0-1.0 0.0-0.5 0.0-0.5 0.0-0.5 0.0-0.5	.37 .37 .37 .32 .24 .17	.37 .37 .37 .32 .24 .17	5	4L	86
418: Jocity-----	0-12 12-30 30-60	20-40 20-40 55-90	20-40 20-40 5-35	28-35 28-35 3-10	1.35-1.45 1.35-1.45 1.45-1.55	0.2-0.6 0.2-0.6 2-20	0.19-0.21 0.19-0.21 0.08-0.10	3.0-5.9 3.0-5.9 0.0-2.9	0.5-1.0 0.0-0.5 0.0-0.5	.32 .32 .24	.32 .32 .24	5	4L	86
419: Santa Fe-----	0-9 9-16 16-60	55-75 50-75 ---	10-30 5-25 ---	5-15 20-35 ---	1.45-1.55 1.35-1.45 ---	2-6 0.6-2 0.00-0.01	0.02-0.04 0.06-0.08 ---	0.0-2.9 3.0-5.9 ---	1.0-2.0 0.0-1.0 ---	.05 .10 ---	.24 .32 ---	1	8	0
Wauquie-----	0-4 4-11 11-18 18-29 29-60 100	55-75 50-75 50-75 55-75 90- 100	10-30 10-25 10-25 10-30 0-10	5-15 20-30 20-30 5-15 0-5	1.45-1.55 1.35-1.45 1.35-1.45 1.45-1.55 1.55-1.65	2-6 0.6-2 0.6-2 2-6 6-20	0.03-0.05 0.03-0.05 0.03-0.05 0.02-0.04 0.01-0.01	0.0-2.9 3.0-5.9 3.0-5.9 0.0-2.9 0.0-2.9	0.5-1.0 0.0-1.0 0.0-0.5 0.0-0.5 0.0-0.5	.05 .05 .05 .05 .02	.28 .32 .32 .24 .10	3	8	0
Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
420: Pinavetes-----	0-10 10-60	75-90 90- 100	0-15 0-15	3-10 0-5	1.45-1.55 1.55-1.65	6-20 6-20	0.06-0.08 0.03-0.05	0.0-2.9 0.0-2.9	0.5-1.0 0.0-0.5	.17 .10	.17 .10	2	2	134
421: Gilco, moderately saline, sodic-----	0-7 7-19 19-60	30-50 55-75 30-70	30-50 10-30 10-50	10-20 10-18 10-18	1.35-1.45 1.40-1.50 1.40-1.50	0.6-2 2-6 0.6-2	0.16-0.18 0.14-0.16 0.14-0.16	0.0-2.9 0.0-2.9 0.0-2.9	0.5-1.0 0.0-0.5 0.0-0.5	.37 .55 .32	.37 .55 .32	5	4L	86
422: Vessilla-----	0-1 1-15 15-60	55-75 55-75 ---	10-30 10-30 ---	5-15 5-15 ---	1.45-1.55 1.45-1.55 ---	2-6 2-6 0.00-0.01	0.11-0.13 0.11-0.13 ---	0.0-2.9 0.0-2.9 ---	0.5-1.0 0.0-0.5 ---	.24 .24 ---	.24 .24 ---	1	3	86
Menefee-----	0-3 3-10 10-60	20-40 20-40 ---	20-40 20-40 ---	28-35 28-35 ---	1.35-1.45 1.35-1.45 ---	0.2-0.6 0.2-0.6 0.00-0.02	0.19-0.21 0.19-0.21 ---	3.0-5.9 3.0-5.9 ---	0.5-1.5 0.0-1.0 ---	.32 .32 ---	.32 .32 ---	2	4L	86
Orlie-----	0-4 4-14 14-60	30-50 5-45 5-20	30-50 25-65 45-65	20-27 28-35 28-35	1.35-1.45 1.35-1.45 1.35-1.45	0.6-2 0.2-0.6 0.2-0.6	0.16-0.18 0.19-0.21 0.19-0.21	3.0-5.9 3.0-5.9 3.0-5.9	2.0-3.0 0.0-1.5 0.0-0.5	.37 .37 .37	.37 .37 .37	5	6	48
423: Gilco-----	0-8 8-14 14-60	30-50 30-50 15-70	30-50 30-50 20-70	10-18 10-18 10-18	1.35-1.45 1.35-1.45 1.35-1.45	0.6-2 0.6-2 0.6-2	0.16-0.18 0.16-0.18 0.15-0.17	0.0-2.9 0.0-2.9 0.0-2.9	0.5-1.0 0.0-0.5 0.0-0.5	.37 .37 .32	.37 .37 .32	5	4L	86
426: Aga, moderately saline, sodic-----	0-8 8-20 20-36 36-60 100	30-50 30-50 75-90 90- 100	30-50 30-50 0-25 0-10	10-20 10-20 0-10 0-5	1.35-1.45 1.35-1.45 1.50-1.60 1.55-1.65	0.6-2 0.6-2 6-20 6-20	0.16-0.18 0.16-0.18 0.03-0.05 0.03-0.05	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	0.5-1.0 0.0-0.5 0.0-0.5 0.0-0.5	.37 .37 .10 .05	.37 .37 .10 .10	3	4L	86
427: Aga-----	0-8 8-28 28-60	30-50 30-50 75-90	30-50 30-50 0-25	10-20 10-20 0-10	1.35-1.45 1.35-1.45 1.45-1.55	0.6-2 0.6-2 6-20	0.16-0.18 0.16-0.18 0.08-0.10	0.0-2.9 0.0-2.9 0.0-2.9	0.5-1.0 0.0-0.5 0.0-0.5	.37 .37 .20	.37 .37 .20	3	4L	86

Table 15.--Physical soil properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	In./hr.	In./in.	Pct.	Pct.					
428: Aga, moderately saline, sodic-----	0-4 4-16 16-22 22-60	30-50 55-75 30-50 70- 100	30-50 10-35 30-50 0-30	10-20 5-15 10-20 0-10	1.35-1.45 1.45-1.55 1.35-1.45 1.55-1.65	0.6-2 0.6-2 0.6-2 6-20	0.16-0.18 0.15-0.17 0.16-0.18 0.04-0.06	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	0.5-1.0 0.0-0.5 0.0-0.5 0.0-0.5	.37 .55 .37 .17	.37 .55 .37 .17	3	4L	86
430: Trail-----	0-10 10-34 34-60	30-50 75-90 55- 100	30-50 0-15 0-40	10-20 5-10 0-5	1.35-1.45 1.45-1.55 1.45-1.55	2-6 6-20 6-20	0.16-0.18 0.06-0.08 0.03-0.05	0.0-2.9 0.0-2.9 0.0-2.9	0.5-1.0 0.0-0.5 0.0-0.5	.37 .17 .10	.37 .17 .10	5	4L	86
431: Trail-----	0-10 10-60	75-95 50- 100	0-15 0-45	5-10 0-10	1.45-1.55 1.45-1.55	6-20 2-20	0.06-0.08 0.06-0.12	0.0-2.9 0.0-2.9	0.5-1.0 0.0-0.5	.17 .17	.17 .17	5	2	134
433: Peralta-----	0-10 10-60	30-50 55-95	30-50 0-30	15-25 10-20	1.35-1.45 1.45-1.55	0.6-2 0.6-2	0.16-0.18 0.13-0.15	3.0-5.9 0.0-2.9	0.5-1.0 0.0-0.5	.37 .24	.37 .24	5	4L	86
434: Peralta-----	0-10 10-16 16-20 20-28 28-40 40-45 45-60	30-50 55-75 20-40 55-75 75-95 10-40 75-95	30-50 10-30 20-40 10-30 0-15 50-75 0-15	15-25 5-15 28-35 5-15 5-10 15-25 5-10	1.35-1.45 1.45-1.55 1.35-1.45 1.45-1.55 1.45-1.55 1.15-1.35 1.45-1.55	0.6-2 2-6 0.2-0.6 2-6 6-20 0.6-2 6-20	0.16-0.18 0.15-0.17 0.19-0.21 0.13-0.15 0.06-0.08 0.19-0.21 0.09-0.10	3.0-5.9 0.0-2.9 3.0-5.9 0.0-2.9 0.0-2.9 3.0-5.9 0.0-2.9	0.5-1.5 0.5-1.0 0.0-1.0 0.0-1.0 0.0-0.5 0.0-0.5 0.0-0.5	.37 .55 .32 .28 .17 .43 .20	.37 .55 .32 .28 .17 .43 .20	5	4L	86
437: Peralta, moderately saline, sodic-----	0-4 4-60	30-50 35-95	30-50 0-50	10-20 5-15	1.35-1.45 1.45-1.55	0.6-2 0.6-2	0.16-0.18 0.13-0.15	0.0-2.9 0.0-2.9	0.5-1.0 0.0-0.5	.37 .28	.37 .28	5	4L	86
500: Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
Osha-----	0-10 10-20 20-43 43-60	55-75 55-75 55-95 ---	10-30 10-30 1-30 ---	5-10 5-10 3-7 ---	1.50-1.60 1.50-1.65 1.50-1.60 ---	2-6 2-6 6-20 0.00-0.01	0.04-0.06 0.03-0.05 0.01-0.03 ---	0.0-2.9 0.0-2.9 0.0-2.9 ---	1.0-2.0 0.5-1.5 0.0-0.5 ---	.05 .05 .05 ---	.20 .20 .15 ---	3	5	56
Rubble land-----	0-60	---	---	0-0	---	20-99	0.00-0.02	0.0-2.9	0.0-0.1	---	---	--	8	0
503: Cajete-----	0-8 8-60	55-75 55-75	10-30 10-30	8-15 10-15	1.50-1.60 1.45-1.55	2-6 2-6	0.02-0.04 0.05-0.07	0.0-2.9 0.0-2.9	1.0-2.0 0.5-1.0	.05 .10	.24 .24	2	8	0
Cypher-----	0-3 3-11 11-15 15-60	30-50 55-75 55-75 ---	30-50 10-30 10-30 ---	10-20 5-15 5-15 ---	1.35-1.45 1.45-1.55 1.45-1.55 ---	0.6-2 2-6 2-6 0.00-0.01	0.07-0.09 0.05-0.07 0.02-0.04 ---	0.0-2.9 0.0-2.9 0.0-2.9 ---	0.5-1.0 0.0-0.5 0.0-0.5 ---	.10 .10 .05 ---	.37 .24 .24 ---	1	7	38
504: Orejas-----	0-2 2-9 9-17 17-60	30-50 20-40 20-40 ---	30-50 20-40 20-40 ---	15-25 28-35 28-35 ---	1.35-1.45 1.35-1.45 1.35-1.45 ---	0.6-2 0.2-0.6 0.2-0.6 0.00-0.01	0.08-0.10 0.09-0.11 0.09-0.11 ---	3.0-5.9 3.0-5.9 3.0-5.9 ---	0.5-1.0 0.0-0.5 0.0-0.5 ---	.10 .10 .10 ---	.37 .32 .32 ---	1	7	38
Guaje-----	0-4 4-12 12-17 17-45 45-60	55-75 55-75 55-75 55-75 55-75	10-30 10-30 10-30 10-30 10-30	5-15 5-15 5-15 5-15 5-15	0.85-0.95 0.85-0.95 0.85-0.95 1.20-1.30 1.25-1.35	2-6 2-6 2-6 2-6 2-6	0.08-0.09 0.08-0.09 0.05-0.07 0.02-0.04 0.05-0.07	0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9 0.0-2.9	1.0-2.0 0.5-1.0 0.0-0.5 0.0-0.5 0.0-0.5	.15 .15 .10 .05 .10	.24 .24 .24 .24 .24	2	5	56
600: Rock outcrop-----	0-60	---	---	---	---	0.00-0.01	---	---	---	---	---	1	8	0
Cypher-----	0-4 4-14 14-16 16-60	30-50 30-50 30-50 ---	30-50 30-50 30-50 ---	10-20 10-25 10-25 ---	1.35-1.45 1.35-1.45 1.35-1.45 ---	0.6-2 0.6-2 0.6-2 0.00-0.01	0.08-0.10 0.08-0.10 0.08-0.10 ---	0.0-2.9 0.0-2.9 0.0-2.9 ---	0.5-1.0 0.0-0.5 0.0-0.5 ---	.10 .10 .10 ---	.37 .37 .37 ---	1	7	38
601: Laventana-----	0-5 5-9 9-50 50-60	55-75 30-50 30-70 ---	10-30 30-50 10-40 ---	5-15 10-20 20-35 ---	1.45-1.55 1.35-1.45 1.35-1.45 ---	2-6 0.6-2 0.6-2 0.00-0.01	0.08-0.10 0.07-0.09 0.07-0.09 ---	0.0-2.9 3.0-5.9 3.0-5.9 ---	1.0-2.0 0.0-1.0 0.0-0.5 ---	.15 .10 .10 ---	.24 .37 .32 ---	3	5	56

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	In./hr.	In./in.	Pct.	Pct.					
603: Laventana-----	0-1	30-50	30-50	15-25	0.20-1.00	20-60	0.15-0.45	---	60-70	---	---	3	8	0
	1-5	30-50	30-50	15-25	1.35-1.45	0.6-2	0.07-0.09	3.0-5.9	1.0-2.0	.10	.37			
	5-12	10-40	50-75	15-25	1.15-1.35	0.6-2	0.13-0.15	3.0-5.9	0.0-1.0	.24	.43			
	12-20	30-50	30-50	20-25	1.35-1.45	0.6-2	0.07-0.09	3.0-5.9	0.0-0.5	.10	.37			
	20-31	30-50	30-50	20-27	1.35-1.45	0.6-2	0.07-0.09	3.0-5.9	0.0-0.5	.10	.37			
	31-51	30-50	30-50	15-25	1.35-1.45	0.6-2	0.07-0.09	3.0-5.9	0.0-0.5	.10	.37			
	51-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
Mirand-----	0-6	30-50	30-50	20-27	1.35-1.45	0.6-2	0.08-0.10	3.0-5.9	1.0-3.0	.10	.37	5	8	0
	6-27	10-35	20-40	40-60	1.15-1.35	0.06-0.2	0.10-0.12	6.0-8.9	0.0-1.0	.10	.20			
	27-60	45-60	0-15	35-50	1.35-1.45	0.2-0.6	0.15-0.17	6.0-8.9	0.0-0.5	.32	.32			
604: Cypher-----	0-1	30-50	30-50	10-20	0.20-1.00	20-60	0.15-0.45	---	60-70	---	---	1	7	38
	1-4	30-50	30-50	10-20	1.35-1.45	0.6-2	0.08-0.10	0.0-2.9	0.5-1.0	.10	.37			
	4-11	30-50	30-50	10-25	1.35-1.45	0.6-2	0.09-0.11	0.0-2.9	0.0-0.5	.10	.37			
	11-19	55-75	10-30	5-15	1.45-1.55	2-6	0.02-0.04	0.0-2.9	0.0-0.5	.05	.24			
	19-60	---	---	---	---	0.00-0.01	---	---	---	---	---			
Mirand-----	0-4	30-50	30-50	20-27	1.35-1.45	0.6-2	0.07-0.09	3.0-5.9	0.5-1.5	.10	.37	5	8	0
	4-60	10-35	20-40	40-50	1.15-1.35	0.06-0.2	0.10-0.12	6.0-8.9	0.0-0.5	.10	.20			
608: Osha, steep-----	0-3	55-75	10-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	1.0-2.0	.10	.20	3	6	48
	3-8	55-75	10-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-2.0	.10	.20			
	8-16	55-75	10-30	5-15	1.45-1.55	2-6	0.05-0.07	0.0-2.9	0.0-1.0	.10	.20			
	16-32	55-75	10-30	5-15	1.45-1.55	2-6	0.01-0.03	0.0-2.9	0.0-0.5	.05	.20			
	32-60	75-95	0-20	0-5	1.45-1.55	6-20	0.01-0.03	0.0-2.9	0.0-0.5	.05	.15			
Osha-----	0-8	55-75	10-30	4-10	1.60-1.65	2-6	0.08-0.10	0.0-2.9	0.5-1.5	.10	.20	3	5	56
	8-16	55-75	10-30	6-12	1.60-1.65	2-6	0.04-0.07	0.0-2.9	0.1-0.3	.10	.20			
	16-32	55-75	10-30	6-12	1.70-1.75	2-6	0.02-0.04	0.0-2.9	0.1-0.3	.02	.20			
	32-60	75-95	0-20	4-8	1.90-1.95	6-20	0.01-0.03	0.0-2.9	0.1-0.3	.02	.15			
823: Gilco, unprotected--	0-8	30-50	30-50	10-18	1.35-1.45	0.6-2	0.15-0.17	0.0-2.9	0.5-1.0	.37	.43	5	4L	86
	8-60	10-70	10-70	10-18	1.35-1.45	0.6-2	0.15-0.17	0.0-2.9	0.0-0.5	.37	.37			
827: Aga, unprotected----	0-8	30-50	30-50	10-20										

Table 16.--Chemical properties of the soils

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
1:							
Silver-----	0-4	11-18	6.6-7.3	0-5	0	0.0-2.0	0-2
	4-8	16-24	7.4-7.8	0-5	0	0.0-2.0	0-2
	8-20	16-23	7.4-7.8	0-5	0	0.0-2.0	0-2
	20-39	16-23	7.4-7.8	0-5	0	0.0-2.0	0-2
	39-60	16-23	7.4-7.8	5-10	0	0.0-2.0	0-2
Clovis-----	0-3	12-18	6.6-7.8	5-10	0	0.0-2.0	0-2
	3-20	16-23	6.6-7.8	5-10	0	0.0-2.0	0-2
	20-40	12-20	7.9-8.4	15-20	0	0.0-2.0	0-2
	40-60	4.0-11	7.9-8.4	15-20	0	0.0-2.0	0-2
2:							
Clovis-----	0-3	12-18	6.6-7.8	5-10	0	0.0-2.0	0-2
	3-24	16-23	6.6-8.4	10-15	0	0.0-2.0	0-2
	24-60	4.0-11	7.9-8.4	15-20	0	0.0-2.0	0-2
Prieta-----	0-3	11-18	6.6-7.3	0-5	0	0.0-2.0	0-2
	3-10	16-24	7.4-7.8	0-5	0	0.0-2.0	0-2
	10-14	16-23	7.9-8.4	0-5	0	0.0-2.0	0-2
	14-19	16-23	7.9-8.4	10-14	0	0.0-2.0	0-2
	19-60	---	---	---	---	---	---
Silver-----	0-8	11-18	6.6-7.3	0-5	0	0.0-2.0	0-2
	8-30	16-24	7.4-7.8	0-5	0	0.0-2.0	0-2
	30-60	16-23	7.4-7.8	0-5	0	0.0-2.0	0-2
3:							
Montecito-----	0-3	6.5-13	6.6-7.3	0-5	0	0.0-2.0	0-2
	3-18	15-19	7.4-7.8	5-10	0	0.0-2.0	0-2
	18-60	15-19	7.9-8.4	5-10	0	0.0-2.0	0-2
Orejas-----	0-2	11-16	7.4-7.8	0	0	0.0-2.0	0
	2-5	15-19	6.6-7.3	5-10	0	0.0-2.0	0
	5-14	15-19	7.9-8.4	5-10	0	0.0-2.0	0
	14-17	15-19	7.9-8.4	5-10	0	0.0-2.0	0
	17-19	15-19	7.9-8.4	5-10	0	0.0-2.0	0
	19-60	---	---	---	---	---	---
4:							
Montecito-----	0-3	3.7-10	6.6-7.3	0-5	0	0.0-2.0	0-2
	3-22	15-19	7.4-8.4	5-10	0	0.0-2.0	0-2
	22-60	8.7-14	7.4-8.4	0-5	0	0.0-2.0	0-2

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
4: Montecito, bouldery--	0-5	3.7-10	6.6-7.3	0-2	0	0.0-2.0	0-2
	5-28	15-19	7.4-8.4	0-5	0	0.0-2.0	0-2
	28-45	8.7-14	7.4-8.4	0-10	0	0.0-2.0	0-2
	45-60	3.2-8.7	7.4-8.4	0-10	0	0.0-2.0	0-2
10: Trail-----	0-6	18-23	7.9-8.4	1-5	0	0.0-4.0	0-5
	6-30	3.1-7.8	8.5-9.0	1-5	0	0.0-4.0	0-5
	30-45	0.0-4.0	8.5-8.9	1-5	0	0.0-4.0	0-5
	45-60	3.1-7.4	8.5-8.9	1-5	0	0.0-4.0	0-5
11: Trail-----	0-9	4.0-11	7.9-8.4	1-5	0	0.0-4.0	0-5
	9-36	3.1-7.8	8.5-9.0	1-5	0	0.0-4.0	0-5
	36-60	3.1-11	8.5-9.0	1-5	0	0.0-4.0	0-5
13: Sandoval-----	0-2	7.4-15	7.9-9.0	0-5	0-5	2.0-4.0	0-5
	2-6	14-23	7.9-8.4	0-5	0-5	2.0-4.0	0-5
	6-10	14-22	7.9-8.4	5-10	0-5	2.0-4.0	0-5
	10-15	14-22	7.9-8.4	5-10	0-5	2.0-4.0	0-5
	15-60	---	---	---	---	---	---
Querencia-----	0-4	14-21	7.9-8.4	0-5	0	0.0-2.0	0-5
	4-12	16-24	7.9-8.4	5-10	0	0.0-2.0	0-5
	12-24	9.8-17	7.9-8.4	5-10	0	0.0-2.0	0-5
	24-60	9.8-17	7.9-8.4	5-10	0	0.0-2.0	0-5
15: Camino-----	0-2	19-24	7.4-7.8	0-5	0	0.0-2.0	0-5
	2-5	22-31	7.9-8.4	0-5	0	0.0-2.0	0-5
	5-20	22-31	7.9-8.4	0-5	0	0.0-2.0	0-5
	20-51	22-31	7.9-8.4	5-10	0	2.0-4.0	0
	51-60	---	---	---	---	---	---
Sandoval-----	0-2	7.8-14	8.5-9.0	0-5	5-10	2.0-4.0	8-13
	2-17	14-23	7.9-8.4	5-10	5-10	2.0-4.0	8-13
	17-60	---	---	---	---	---	---
16: Rock outcrop-----	0-60	---	---	---	---	---	---

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
16: Prieta-----	0-5	11-18	6.6-7.3	0-5	0	0.0-2.0	0-5
	5-15	16-24	7.4-7.8	0-5	0	0.0-2.0	0-5
	15-19	16-23	7.9-8.4	3-8	0	0.0-2.0	0-5
	19-60	---	---	---	---	---	---
17: Vessilla-----	0-5	4.0-11	7.9-8.4	5-10	0	0.0-2.0	0
	5-11	3.1-11	7.9-8.4	5-10	0	0.0-2.0	0
	11-60	---	---	---	---	---	---
Menefee-----	0-3	19-25	7.9-8.4	0-2	0	0.0-2.0	0
	3-10	14-23	7.9-8.4	0-5	0	0.0-2.0	0
	10-60	---	---	---	---	---	---
Rock outcrop-----	0-60	---	---	---	---	---	---
18: Sparham-----	0-7	18-24	6.6-7.3	0-5	0	2.0-4.0	5-10
	7-20	18-34	7.4-7.8	0-5	0	2.0-4.0	5-10
	20-29	14-23	7.9-8.4	5-10	0	2.0-16.0	5-30
	29-47	14-22	7.4-7.8	5-10	0	2.0-16.0	5-30
	47-53	14-22	7.9-8.4	5-10	0	2.0-16.0	5-30
	53-60	14-22	7.9-8.4	5-10	0	2.0-16.0	5-30
20: Gilco-----	0-6	18-21	6.6-8.4	0-5	0	0.0-4.0	0-5
	6-60	5.7-14	6.6-8.4	5-10	0	0.0-4.0	0-5
21: Rock outcrop-----	0-60	---	---	---	---	---	---
Hackroy-----	0-3	7.3-13	6.6-7.8	0	0	0.0-2.0	0
	3-12	21-26	6.6-7.8	0	0	0.0-2.0	0
	12-60	---	---	---	---	---	---
22: Aga-----	0-8	18-23	6.6-8.4	0-5	0	0.0-2.0	0-5
	8-24	5.4-12	6.6-8.4	5-10	0	2.0-4.0	0-5
	24-60	0.0-8.3	6.6-8.4	5-10	0	2.0-4.0	0-5

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
23: Hickman-----	0-4	20-26	7.9-8.4	0	0	0.0-2.0	0-5
	4-12	14-24	7.4-7.8	5-10	0	0.0-2.0	0-5
	12-49	14-23	7.4-7.8	5-10	0	0.0-2.0	0-5
	49-60	10-22	7.9-8.4	5-10	0	0.0-2.0	0-5
24: Orlie-----	0-2	4.6-12	7.9-8.4	0	0	0.0-2.0	0
	2-25	15-20	7.9-8.4	0-5	0	0.0-2.0	0
	25-60	11-16	7.9-8.4	5-10	0	2.0-4.0	0
Sparham-----	0-3	25-36	6.6-7.8	0-5	0	2.0-4.0	5-10
	3-60	19-32	7.4-8.4	5-10	0	2.0-16.0	5-30
25: Gilco-----	0-4	7.4-13	7.9-8.4	0-5	0	0.0-4.0	0-5
	4-34	5.7-12	7.9-8.4	5-10	0	0.0-4.0	0-5
	34-60	5.7-12	7.9-8.4	5-10	0	0.0-4.0	0-5
26: Orlie-----	0-2	8.1-15	7.9-8.4	0	0	0.0-2.0	0
	2-13	15-21	7.9-8.4	0-5	0	0.0-2.0	0
	13-22	15-20	7.9-8.4	0-5	0	0.0-2.0	0
	22-36	15-19	7.9-8.4	5-10	0	2.0-4.0	0
	36-50	15-19	7.9-8.4	5-10	0	2.0-4.0	0
	50-60	15-19	7.9-8.4	5-10	0	2.0-4.0	0
27: Aga-----	0-10	7.4-14	7.9-8.4	0-5	0	0.0-2.0	0-5
	10-23	4.7-12	7.9-8.4	5-10	0	2.0-4.0	0-5
	23-43	0.0-4.0	7.9-8.4	5-10	0	2.0-4.0	0-5
	43-60	0.0-4.0	7.9-8.4	5-10	0	2.0-4.0	0-5
29: Trail-----	0-6	3.1-7.8	7.9-8.4	1-5	0	0.0-2.0	0-5
	6-60	3.1-7.4	8.5-9.0	1-5	0	0.0-2.0	0-5
31: Riverwash-----	0-6	0.0-0.9	6.6-7.3	0-1	0-1	0.0-1.0	0-1
	6-60	---	6.6-7.3	0	0	0.0-2.0	0-1
33: Pits-----	0-60	---	---	---	---	---	---

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
34:							
Ildefonso-----	0-3	12-18	7.4-8.4	5-10	0	0.0-2.0	0-5
	3-17	11-18	7.9-8.4	15-20	0	0.0-4.0	0-5
	17-60	7.0-14	7.9-8.4	15-20	0	0.0-4.0	0-5
Witt-----	0-3	4.6-12	7.4-7.8	0-5	0	0.0-2.0	0-5
	3-27	9.8-18	7.9-8.4	0-5	0	0.0-2.0	0-5
	27-60	9.8-17	7.9-8.4	10-20	0	0.0-2.0	0-5
41:							
Dune Land-----	0-6	---	6.6-7.3	0-1	0-1	0.0-1.0	0-1
	6-60	---	6.6-7.3	0-1	0-1	0.0-1.0	0-1
47:							
Cascajo-----	0-2	4.6-12	7.4-7.8	0-10	0	0.0-2.0	0
	2-5	4.6-12	7.9-8.4	0-10	0	0.0-2.0	0
	5-11	4.0-11	7.9-8.4	0-10	0	0.0-2.0	0
	11-23	4.0-8.1	7.9-8.4	0-10	0	0.0-2.0	0
	23-30	4.0-8.1	7.9-8.4	0-5	0	0.0-2.0	0
	30-60	4.0-8.1	7.9-8.4	0-5	0	0.0-2.0	0
51:							
Sparham-----	0-6	18-23	6.6-7.3	0-5	0	2.0-8.0	0-5
	6-20	14-23	7.4-7.8	5-10	0	2.0-8.0	0-5
	20-36	19-30	7.9-8.4	5-10	0	2.0-16.0	5-30
	36-60	14-22	7.9-8.4	5-10	0	2.0-16.0	5-30
52:							
Totavi-----	0-15	2.5-7.3	6.6-7.3	0	0	0.0-2.0	0
	15-19	2.5-6.7	6.6-7.3	0	0	0.0-2.0	0
	19-60	2.5-6.7	6.6-7.3	0	0	0.0-2.0	0
53:							
Witt-----	0-3	8.1-15	7.9-8.4	0-5	0	0.0-2.0	0
	3-6	11-18	7.4-7.8	0-5	0	0.0-2.0	0
	6-11	16-24	7.4-7.8	0-5	0	0.0-2.0	0
	11-18	16-24	7.9-8.4	0-5	0	0.0-2.0	0
	18-25	16-23	7.9-8.4	3-8	0	0.0-2.0	0
	25-39	9.8-17	7.9-8.4	5-15	0	0.0-2.0	0
	39-53	9.8-17	7.9-8.4	5-15	0	0.0-2.0	0
	53-60	9.8-17	7.9-8.4	5-15	0	0.0-2.0	0

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
53: Harvey-----	0-10	11-18	7.4-8.4	5-10	0	0.0-2.0	0
	10-28	16-24	7.4-8.4	5-10	0	0.0-2.0	0
	28-42	12-23	7.9-8.4	15-20	0	0.0-2.0	0
	42-60	4.0-11	7.9-8.4	15-20	0	0.0-2.0	0
54: Harvey-----	0-2	4.6-14	7.4-8.4	5-10	0	0.0-2.0	0
	2-11	4.0-12	7.4-8.4	5-10	0	0.0-2.0	0
	11-23	16-23	7.9-8.4	15-20	0	0.0-2.0	0
	23-60	12-23	7.9-8.4	15-20	0	0.0-2.0	0
Cascajo-----	0-3	4.6-12	7.4-8.4	5-10	0-1	0.0-2.0	0
	3-9	4.6-12	7.4-8.4	5-10	0-1	0.0-2.0	0
	9-28	0.0-4.6	7.4-8.4	15-20	0-1	0.0-2.0	0
	28-60	0.0-4.6	7.9-8.4	15-20	0-1	0.0-2.0	0
55: La Fonda-----	0-4	15-20	7.4-8.4	0-5	0	0.0-2.0	0-5
	4-26	9.8-18	7.4-8.4	0-5	0	0.0-2.0	0-5
	26-60	12-18	7.4-8.4	10-15	0	0.0-2.0	0-5
56: Ildefonso-----	0-3	12-18	7.4-8.4	5-10	0	0.0-2.0	0
	3-9	11-18	7.4-8.4	5-10	0	0.0-2.0	0
	9-15	9.8-18	7.9-8.4	15-20	0	0.0-4.0	0
	15-60	9.8-17	7.9-8.4	15-20	0	0.0-4.0	0
57: Badland-----	0-60	---	---	---	---	---	---
58: Deama-----	0-7	11-24	7.4-8.4	10-30	0	0.0-2.0	0
	7-14	9.5-18	7.4-8.4	40-60	0	0.0-2.0	0
	14-60	---	---	---	---	---	---
Elpedro-----	0-5	9.0-14	7.4-7.8	5-15	0	0.0-2.0	0
	5-12	15-19	7.4-7.8	5-15	0	0.0-2.0	0
	12-19	15-19	7.9-8.4	5-15	0	0.0-2.0	0
	19-25	15-19	7.9-8.4	5-15	0	0.0-2.0	0
	25-36	15-19	7.4-7.8	5-15	0	0.0-2.0	0
	36-45	8.7-15	7.4-7.8	5-15	0	0.0-2.0	0
	45-60	6.0-11	7.4-7.8	5-15	0	0.0-2.0	0

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
59:							
Harvey-----	0-4	11-18	7.9-8.4	5-10	0	0.0-2.0	0
	4-10	9.8-18	7.9-8.4	5-10	0	0.0-2.0	0
	10-18	16-23	7.9-8.4	15-20	0	0.0-2.0	0
	18-41	16-23	7.9-8.4	15-20	0	0.0-2.0	0
	41-60	12-20	7.9-8.4	15-20	0	0.0-2.0	0
Ildefonso-----	0-2	12-18	7.4-8.4	5-10	0	0.0-2.0	0
	2-8	11-18	7.4-8.4	5-10	0	0.0-2.0	0
	8-13	11-18	7.4-8.4	5-10	0	0.0-2.0	0
	13-32	4.0-11	7.9-8.4	15-20	0	0.0-4.0	0
	32-40	4.0-11	7.9-8.4	15-20	0	0.0-4.0	0
	40-60	0.0-4.6	7.9-8.4	15-20	0	0.0-4.0	0
La Fonda-----	0-3	15-20	7.9-8.4	0-5	0	0.0-2.0	0-5
	3-7	14-19	7.9-8.4	0-5	0	0.0-2.0	0-5
	7-14	19-24	7.9-8.4	0-5	0	0.0-2.0	0-5
	14-26	12-19	7.9-8.4	0-5	0	0.0-2.0	0-5
	26-42	12-18	7.9-8.4	10-15	0	0.0-2.0	0-5
	42-60	12-18	7.9-8.4	10-15	0	0.0-2.0	0-5
63:							
Placitas-----	0-5	8.3-15	7.9-8.4	0-5	0	0.0-2.0	0-5
	5-10	4.0-12	7.9-8.4	0-5	0	0.0-2.0	0-5
	10-27	4.0-11	7.9-8.4	20-25	0	0.0-2.0	0-5
	27-60	---	---	---	---	---	---
64:							
Skyvillage-----	0-4	4.2-12	7.9-8.4	0-5	0	0.0-2.0	0
	4-11	3.1-11	7.9-8.4	5-10	0	0.0-2.0	0
	11-18	3.1-11	7.4-7.8	5-10	0	0.0-2.0	0
	18-60	---	---	---	---	---	---
Ildefonso-----	0-3	4.6-12	7.9-8.4	5-10	0	0.0-2.0	0
	3-14	4.0-12	7.9-8.4	5-10	0	0.0-2.0	0
	14-60	4.0-11	7.9-8.4	15-20	0	0.0-2.0	0
65:							
Ildefonso-----	0-6	6.7-14	7.4-7.8	5-10	0	0.0-2.0	0
	6-38	5.8-14	7.4-7.8	5-10	0	0.0-2.0	0
	38-60	5.8-13	7.9-8.4	15-20	0	0.0-2.0	0

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
65: Harvey-----	0-4	11-18	7.4-8.4	5-10	0	0.0-2.0	0
	4-23	11-18	7.9-8.4	15-20	0	0.0-2.0	0
	23-36	9.8-17	7.9-8.4	15-20	0	0.0-2.0	0
	36-60	4.0-11	7.9-8.4	15-20	0	0.0-2.0	0
66: Zia-----	0-4	4.0-11	7.4-8.4	0-5	0	0.0-2.0	0-5
	4-60	3.1-11	7.4-8.4	10-15	0	0.0-2.0	0-5
67: Sandoval-----	0-2	11-20	8.5-9.0	0-5	5-10	2.0-4.0	0
	2-11	14-23	7.9-8.4	5-10	5-10	2.0-4.0	0
	11-60	---	---	---	---	---	---
Poley-----	0-3	11-18	7.4-7.8	0-2	0-1	0.0-2.0	0
	3-12	19-24	7.4-7.8	0-2	0-1	0.0-2.0	0
	12-17	16-24	7.4-7.8	0-2	0-1	0.0-2.0	0
	17-21	16-23	7.9-8.4	0-10	0-1	0.0-2.0	0
	21-40	16-23	7.9-8.4	0-10	0-1	0.0-2.0	0
	40-60	4.0-11	7.4-7.8	0-10	0-1	0.0-2.0	0
68: Penistaja-----	0-2	4.6-8.3	7.4-7.8	0-5	0	0.0-2.0	0-2
	2-15	12-21	7.4-7.8	0-5	0	0.0-2.0	0-2
	15-27	12-20	7.4-7.8	5-10	0	0.0-2.0	0-2
	27-38	16-23	7.9-8.4	5-10	0	0.0-2.0	0-5
	38-60	12-20	7.4-7.8	5-10	0	0.0-2.0	0-5
Querencia-----	0-2	4.6-12	7.9-8.4	0-5	0	0.0-2.0	0-2
	2-40	12-21	7.9-8.4	5-10	0	0.0-2.0	0-2
	40-60	4.0-11	7.9-8.4	5-10	0	0.0-2.0	0-5
71: Palon-----	0-6	4.2-12	6.6-7.3	0	0	0.0-2.0	0
	6-27	3.2-8.7	6.6-7.3	0	0	0.0-2.0	0
	27-60	3.2-8.7	6.6-7.3	0	0	0.0-2.0	0
72: Palon-----	0-2	73-81	5.1-6.0	0	0	0.0-2.0	0
	2-4	4.2-12	6.6-7.3	0	0	0.0-2.0	0
	4-10	3.7-11	6.6-7.3	0	0	0.0-2.0	0
	10-32	3.2-8.7	6.6-7.3	0	0	0.0-2.0	0
	32-53	3.2-8.7	6.6-7.3	0	0	0.0-2.0	0
	53-60	3.2-8.7	6.6-7.3	0	0	0.0-2.0	0

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
74:							
Origo-----	0-7	4.2-12	6.6-7.3	0	0	0.0-2.0	0
	7-28	2.2-10	6.1-7.3	0	0	0.0-2.0	0
	28-60	---	4.5-5.0	0	0	0.0-2.0	0
Pavo-----	0-9	13-21	6.1-6.5	0	0	0.0-2.0	0
	9-12	5.0-13	6.6-7.3	0	0	0.0-2.0	0
	12-25	3.8-10	6.6-7.3	0	0	0.0-2.0	0
	25-35	3.8-10	6.6-7.3	0	0	0.0-2.0	0
	35-45	3.8-10	6.6-7.3	0	0	0.0-2.0	0
	45-50	19-23	6.1-6.5	0	0	0.0-2.0	0
	50-60	3.8-10	6.6-7.3	0	0	0.0-2.0	0
75:							
Origo-----	0-1	73-81	5.1-6.0	0	0	0.0-2.0	0
	1-6	4.2-12	6.1-6.5	0	0	0.0-2.0	0
	6-12	2.2-11	6.6-7.3	0	0	0.0-2.0	0
	12-32	3.2-8.7	6.6-7.3	0	0	0.0-2.0	0
	32-56	3.2-8.7	4.5-5.0	0	0	0.0-2.0	0
	56-60	1.0-3.2	4.5-5.0	0	0	0.0-2.0	0
82:							
Calaveras-----	0-2	6.7-13	5.6-7.3	0	0	0.0-2.0	0
	2-6	3.9-10	5.6-7.3	0	0	0.0-2.0	0
	6-40	2.5-9.2	5.6-7.3	0	0	0.0-2.0	0
	40-60	2.5-9.2	5.6-7.3	0	0	0.0-2.0	0
83:							
Calaveras-----	0-6	10-16	5.6-7.3	0	0	0.0-2.0	0
	6-12	3.9-10	5.6-7.3	0	0	0.0-2.0	0
	12-24	4.3-12	5.6-7.3	0	0	0.0-2.0	0
	24-60	2.5-9.2	5.6-7.3	0	0	0.0-2.0	0
Rubble Land-----	0-60	---	---	0	0	0	0
85:							
Redondo-----	0-2	4.6-9.4	6.1-6.5	0	0	0.0-2.0	0
	2-7	4.2-8.6	6.1-6.5	0	0	0.0-2.0	0
	7-15	3.7-7.8	5.6-6.0	0	0	0.0-2.0	0
	15-22	3.2-6.0	5.6-6.0	0	0	0.0-2.0	0
	22-29	3.2-6.0	5.6-6.0	0	0	0.0-2.0	0
	29-38	3.2-6.0	5.6-6.0	0	0	0.0-2.0	0
	38-54	3.2-6.0	5.6-6.0	0	0	0.0-2.0	0
	54-60	3.2-6.0	5.6-6.0	0	0	0.0-2.0	0

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
86: Redondo-----	0-8	4.2-8.1	6.1-6.5	0	0	0.0-2.0	0
	8-13	3.2-6.0	5.6-6.0	0	0	0.0-2.0	0
	13-34	3.2-6.0	5.6-6.0	0	0	0.0-2.0	0
	34-60	3.2-6.0	5.6-6.0	0	0	0.0-2.0	0
87: Redondo-----	0-6	7.3-14	6.1-6.5	0	0	0.0-2.0	0
	6-13	3.7-7.8	5.6-6.0	0	0	0.0-2.0	0
	13-60	3.2-6.0	5.6-6.0	0	0	0.0-2.0	0
Rubble Land-----	0-60	---	---	0	0	0	0
88: Totavi-----	0-12	2.5-7.3	6.6-7.3	0	0	0.0-2.0	0
	12-60	2.5-6.7	6.6-7.3	0-5	0	0.0-2.0	0
Jemez-----	0-6	9.0-15	7.4-7.8	0	0	0.0-2.0	0
	6-13	8.7-14	7.4-7.8	0	0	0.0-2.0	0
	13-19	15-19	7.4-7.8	0	0	0.0-2.0	0
	19-27	11-19	7.4-7.8	0	0	0.0-2.0	0
	27-60	---	---	---	---	---	---
Rock outcrop-----	0-60	---	---	---	---	---	---
91: Zia-----	0-16	4.0-11	7.4-8.4	0-5	0	0.0-2.0	0-5
	16-22	3.1-7.8	7.4-8.4	10-15	0	0.0-2.0	0-5
	22-35	3.1-11	7.4-8.4	10-15	0	0.0-2.0	0-5
	35-60	3.1-11	7.4-8.4	10-15	0	0.0-2.0	0-5
92: Galisteo, moderately saline, sodic-----	0-12	20-28	8.5-9.0	5-10	0	8.0-16.0	5-30
	12-60	19-30	8.5-9.0	5-10	0	8.0-16.0	5-30
93: Zia-----	0-8	4.0-7.8	7.4-8.4	0-5	0	0.0-2.0	0-5
	8-60	3.1-11	7.4-8.4	10-15	0	0.0-2.0	0-5
95: El Rancho-----	0-5	12-19	7.9-8.4	0	0	0.0-2.0	0-5
	5-20	10-18	7.9-8.4	0-5	0	0.0-2.0	0-5
	20-38	10-18	7.9-8.4	0-5	0	0.0-2.0	0-5
	38-60	3.1-11	7.9-8.4	0-5	0	0.0-2.0	0-5

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
97:							
El Rancho-----	0-8	19-23	7.9-8.4	0-5	0	0.0-2.0	0-5
	8-60	10-22	7.9-8.4	5-10	0	0.0-2.0	0-5
100:							
Orejas-----	0-5	9.0-15	7.4-7.8	0	0	0.0-2.0	0-5
	5-15	15-19	7.9-8.4	5-10	0	0.0-2.0	0-5
	15-19	15-19	7.9-8.4	5-10	0	0.0-2.0	0-5
	19-60	---	---	---	---	---	---
Rock outcrop-----	0-60	---	---	---	---	---	---
101:							
Blancot-----	0-2	4.6-12	7.9-8.4	0-3	0	0.0-2.0	0-5
	2-5	19-24	7.9-8.4	0-3	0	0.0-2.0	0-5
	5-14	16-23	7.9-8.4	0-3	0	0.0-2.0	0-5
	14-23	16-23	7.9-8.4	0-10	0	0.0-2.0	0-5
	23-40	4.0-11	7.9-8.4	0-2	0	2.0-4.0	0-5
	40-49	16-20	7.9-8.4	0-5	0	2.0-4.0	0-5
	49-60	4.0-9.8	8.5-9.0	0-5	0	2.0-4.0	0-5
Lybrook-----	0-1	18-23	7.9-8.4	0-5	0	2.0-4.0	5-10
	1-5	14-22	7.9-8.4	0-5	0	2.0-4.0	5-10
	5-21	14-22	7.9-8.4	0-5	0	2.0-4.0	5-30
	21-30	14-22	7.9-8.4	0-5	0	2.0-4.0	5-30
	30-60	14-22	9.0-10.0	5-10	0	5.0-25.0	15-50
102:							
Sparham-----	0-7	18-24	6.6-7.3	0-5	0	2.0-4.0	5-10
	7-29	14-23	7.4-7.8	5-10	0	2.0-16.0	5-30
	29-60	14-22	7.9-8.4	5-10	0	2.0-16.0	5-30
104:							
Cochiti-----	0-7	9.0-15	6.6-7.3	0	0	0.0-2.0	0
	7-12	16-22	6.1-6.5	0-5	0	0.0-2.0	0
	12-20	21-31	6.6-7.3	0-5	0	0.0-2.0	0
	20-29	16-21	6.6-7.3	0-5	0	0.0-2.0	0
	29-60	3.2-8.7	6.6-7.3	5-10	0	0.0-2.0	0
Montecito-----	0-3	9.0-16	6.6-7.3	0	0	0.0-2.0	0-2
	3-9	15-20	6.6-7.3	0-5	0	0.0-2.0	0-2
	9-15	15-19	7.4-7.8	0-5	0	0.0-2.0	0-2
	15-22	15-19	7.9-8.4	0-5	0	0.0-2.0	0-2
	22-37	3.2-8.7	7.9-8.4	5-10	0	0.0-2.0	0-2
	37-60	3.2-8.7	7.9-8.4	5-10	0	0.0-2.0	0-2

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
105: Badland-----	0-60	---	---	---	---	---	---
Menefee-----	0-4	11-18	7.4-8.4	0-2	0-1	0.0-2.0	0
	4-10	14-23	7.4-8.4	0-5	0-1	0.0-2.0	0
	10-60	---	---	---	---	---	---
106: Stumble-----	0-4	4.0-11	7.9-8.4	0-5	0	0.0-2.0	0-5
	4-10	3.1-11	7.4-7.8	5-10	0	0.0-2.0	0-5
	10-24	3.1-7.4	7.9-8.4	5-10	0	0.0-2.0	0-5
	24-60	0.0-4.0	7.9-8.4	5-10	0	0.0-2.0	0-5
Stumble, sandy-----	0-4	4.0-7.7	7.4-8.4	0-5	0	0.0-2.0	0-5
	4-18	3.6-7.1	7.9-8.4	5-10	0	0.0-2.0	0-5
	18-60	0.9-4.5	7.9-8.4	5-10	0	0.0-2.0	0-5
108: Embudo-----	0-6	4.0-11	6.6-7.8	0	0	0.0-2.0	0-5
	6-30	4.0-11	7.4-8.4	0	0	0.0-2.0	0-5
	30-60	4.0-8.1	7.4-8.4	0	0	0.0-2.0	0-5
109: Embudo-----	0-4	4.6-12	7.9-8.4	0	0	0.0-2.0	0-5
	4-12	4.6-9.7	7.9-8.4	0	0	0.0-2.0	0-5
	12-30	4.0-11	7.9-8.4	0-5	0	0.0-2.0	0-5
	30-60	4.0-8.1	7.9-8.4	0-5	0	0.0-2.0	0-5
Tijeras-----	0-4	4.0-12	7.9-8.4	0-5	0	0.0-2.0	0-5
	4-10	12-21	7.9-8.4	0-5	0	0.0-2.0	0-5
	10-20	12-20	7.9-8.4	5-10	0	0.0-2.0	0-5
	20-26	4.0-11	7.9-8.4	5-10	0	0.0-2.0	0-5
	26-60	4.0-11	7.9-8.4	5-10	0	0.0-2.0	0-5
110: Rock outcrop-----	0-60	---	---	---	---	---	---
Saido-----	0-5	11-18	7.9-8.4	0-5	10-20	2.0-8.0	0
	5-9	11-18	7.9-8.4	5-10	60-80	2.0-8.0	0
	9-15	9.8-18	7.9-8.4	5-10	60-80	2.0-8.0	0
	15-25	9.8-17	7.9-8.4	5-10	60-80	2.0-8.0	0
	25-60	9.8-17	7.9-8.4	5-10	30-50	2.0-8.0	0
111: Rock outcrop-----	0-60	---	---	---	---	---	---

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
111: Zia-----	0-5 5-60	4.0-11 3.1-11	7.4-8.4 7.4-8.4	0-5 10-15	0 0	0.0-2.0 0.0-2.0	0-5 0-5
112: Tijeras-----	0-3 3-14 14-60	4.0-12 12-20 4.0-11	7.9-8.4 7.9-8.4 7.9-8.4	0-5 0-5 5-10	0 0 0	0.0-2.0 0.0-2.0 0.0-2.0	0-5 0-5 0-5
114: San Mateo-----	0-7 7-60	7.4-14 8.1-22	7.9-8.4 8.5-9.0	0-5 5-10	0 0	0.0-2.0 5.0-30.0	0-5 0-5
Zia-----	0-3 3-60	4.0-11 3.1-11	7.4-8.4 7.4-8.4	0-5 10-15	0 0	0.0-2.0 0.0-2.0	0-5 0-5
120: Pinavetes-----	0-10 10-35 35-60	4.0-7.8 0.0-4.2 0.0-4.0	7.9-8.4 8.5-9.0 7.9-8.4	1-5 1-5 1-5	0 0 0	0.0-2.0 0.0-2.0 0.0-2.0	0 0 0
124: Rock outcrop-----	0-60	---	---	---	---	---	---
129: Menefee-----	0-5 5-10 10-17 17-60	18-24 14-23 14-22 ---	7.4-8.4 7.4-8.4 7.4-8.4 ---	0-2 0-5 0-5 ---	0-1 0-1 0-1 ---	0.0-2.0 0.0-2.0 0.0-2.0 ---	0 0 0 ---
130: Pinavetes-----	0-2 2-60	4.0-7.8 3.1-7.4	7.9-8.4 8.5-8.9	1-5 1-5	0 0	0.0-2.0 0.0-2.0	0 0
Galisteo, moderately saline, sodic-----	0-2 2-60	19-25 19-30	8.5-9.0 8.5-9.0	5-10 5-10	0 0	8.0-16.0 8.0-16.0	13-30 13-30
142: Grieta-----	0-3 3-11 11-34 34-48 48-60	7.0-13 7.0-13 12-23 12-23 4.0-8.1	7.4-8.4 7.4-8.4 7.4-8.4 7.4-8.4 7.4-8.4	0-5 15-20 15-20 10-15 10-15	0 0 0 0 0	0.0-2.0 2.0-4.0 2.0-4.0 2.0-4.0 2.0-4.0	0 0 0 0 0

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
143: Clovis-----	0-3	4.7-12	7.4-7.8	5-10	0	0.0-2.0	0-1
	3-7	14-24	7.9-8.4	20-25	0	0.0-2.0	0-1
	7-12	12-23	7.9-8.4	20-25	0	0.0-2.0	0-1
	12-22	12-23	7.9-8.4	20-25	0	0.0-2.0	0-1
	22-34	12-23	7.9-8.4	20-25	0	0.0-2.0	0-1
	34-60	12-23	7.9-8.4	20-25	0	0.0-2.0	0-1
145: Grieta-----	0-7	4.0-8.1	7.4-7.8	0-5	0	0.0-2.0	0-2
	7-14	12-23	7.9-8.4	0-10	0	2.0-4.0	0-2
	14-21	12-23	7.9-8.4	0-10	0	2.0-4.0	0-2
	21-38	4.0-11	7.9-8.4	10-15	0	2.0-4.0	0-2
	38-50	4.0-11	7.9-8.4	10-15	0	2.0-4.0	0-2
	50-60	4.0-11	7.9-8.4	10-15	0	2.0-4.0	0-2
Sheppard-----	0-5	3.1-7.4	7.9-8.4	0-5	0	0.0-2.0	0
	5-27	3.1-7.4	7.9-8.4	0-10	0	0.0-2.0	0
	27-60	3.1-7.4	7.9-8.4	0-10	0	0.0-2.0	0
146: Sedmar-----	0-3	4.0-7.8	6.6-7.3	0	0	0.0-2.0	0
	3-13	3.1-11	6.6-7.3	0	0	0.0-2.0	0
	13-18	3.1-7.4	6.6-7.3	0	0	0.0-2.0	0
	18-60	---	---	---	---	---	---
150: Doakum-----	0-5	4.6-12	7.9-8.4	0-5	0	0.0-2.0	0-2
	5-11	16-23	7.9-8.4	5-10	0	2.0-4.0	0-2
	11-17	12-23	7.9-8.4	5-10	0	2.0-4.0	0-2
	17-24	12-23	8.5-9.0	5-10	0	4.0-8.0	0-5
	24-31	16-23	8.5-9.0	5-10	0	4.0-8.0	0-5
	31-44	7.0-17	8.5-9.0	5-10	0	4.0-8.0	0-5
	44-60	7.0-15	8.5-9.0	5-10	0	4.0-8.0	0-5
Betonnies-----	0-2	4.6-12	7.9-8.4	0-5	0	0.0-2.0	0-2
	2-4	4.6-12	7.9-8.4	0-5	0	0.0-2.0	0-2
	4-12	4.0-11	7.9-8.4	0-5	0	0.0-2.0	0-2
	12-18	4.0-11	7.9-8.4	0-5	0	0.0-2.0	0-2
	18-34	4.0-11	8.5-9.0	0-10	0	0.0-2.0	0-5
	34-60	4.0-9.8	8.5-9.0	0-10	0	0.0-2.0	0-5

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
162: Hackroy-----	0-3	7.3-13	6.6-7.8	0	0	0.0-2.0	0
	3-13	21-26	6.6-7.8	0	0	0.0-2.0	0
	13-60	---	---	---	---	---	---
Nyjack-----	0-3	11-15	6.1-6.5	0	0	0.0-2.0	0
	3-13	15-19	6.6-7.3	0	0	0.0-2.0	0
	13-24	15-19	6.6-7.3	0	0	0.0-2.0	0
	24-39	3.2-8.7	6.6-7.3	0	0	0.0-2.0	0
	39-60	---	---	---	---	---	---
163: Jemez-----	0-3	9.0-15	6.6-7.8	0	0	0.0-2.0	0
	3-24	15-19	6.6-7.8	0	0	0.0-2.0	0
	24-39	14-19	6.6-7.8	0	0	0.0-2.0	0
	39-60	---	---	---	---	---	---
170: San Mateo-----	0-2	11-18	7.9-8.4	0-5	0	0.0-2.0	0-5
	2-10	14-23	8.5-9.0	5-10	0	0.0-2.0	0-5
	10-23	14-22	8.5-9.0	5-10	0	0.0-2.0	0-5
	23-32	14-22	7.9-8.4	5-10	0	0.0-2.0	0-5
	32-54	14-22	8.5-9.0	5-10	0	1.0-8.0	5-30
	54-60	14-22	8.5-9.0	5-10	0	1.0-8.0	5-30
180: Cuncelor-----	0-2	3.1-11	7.9-8.4	5-10	0	0.0-2.0	0-2
	2-7	3.1-11	7.9-8.4	5-10	0	2.0-4.0	0-2
	7-37	3.1-11	7.9-8.4	5-10	0	2.0-4.0	0-2
	37-40	14-22	7.9-8.4	5-10	0	2.0-4.0	0-2
	40-60	3.1-11	7.9-8.4	5-10	0	2.0-4.0	0-2
Eslendo-----	0-3	18-23	7.9-8.4	0	0	2.0-4.0	0-5
	3-10	14-22	7.9-8.4	0-5	0	2.0-4.0	0-5
	10-60	---	---	---	---	---	---
Mespun-----	0-6	1.4-7.4	7.9-8.4	5-10	0	0.0-2.0	0
	6-60	2.0-6.1	7.9-8.4	5-10	0	0.0-2.0	0
183: Sheppard-----	0-4	3.1-7.4	7.9-8.4	0-5	0	0.0-2.0	0
	4-45	3.1-7.4	7.9-8.4	0-10	0	0.0-2.0	0
	45-60	3.1-7.4	7.9-8.4	0-10	0	0.0-2.0	0

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
185:							
Frijoles-----	0-3	4.2-11	6.6-7.3	0	0	0.0-2.0	0
	3-8	8.8-20	6.6-7.3	0	0	0.0-2.0	0
	8-13	15-19	6.6-7.3	0	0	0.0-2.0	0
	13-20	6.0-8.7	6.6-7.3	0-5	0	0.0-2.0	0
	20-60	0.0-1.4	6.6-7.3	0	0	0.0-2.0	0
190:							
Zia-----	0-5	4.0-11	7.4-8.4	0-5	0	0.0-2.0	0
	5-28	3.1-11	7.4-8.4	5-12	0	0.0-2.0	0
	28-60	3.1-11	7.4-8.4	10-15	0	0.0-2.0	0
Skyvillage-----	0-2	4.2-12	7.9-8.4	0-5	0	0.0-2.0	0
	2-11	3.1-11	7.9-8.4	5-10	0	0.0-2.0	0
	11-16	3.1-11	7.4-7.8	5-10	0	0.0-2.0	0
	16-60	---	---	---	---	---	---
Rock outcrop-----	0-60	---	---	---	---	---	---
191:							
Sheppard-----	0-3	3.1-7.4	7.9-8.4	0-5	0	0.0-2.0	0
	3-27	3.1-7.4	7.9-8.4	0-10	0	0.0-2.0	0
	27-60	3.1-7.4	7.9-8.4	0-10	0	0.0-2.0	0
200:							
Sedillo-----	0-4	4.7-12	7.4-7.8	0-5	0	0.0-2.0	0-5
	4-13	12-21	7.4-7.8	5-10	0	0.0-2.0	0-5
	13-60	4.0-11	7.4-7.8	15-30	0	0.0-2.0	0-5
201:							
Rock outcrop-----	0-60	---	---	---	---	---	---
Sedgran-----	0-4	4.0-7.8	6.6-7.3	0	0	0.0-2.0	0
	4-13	3.1-7.4	7.4-7.8	0	0	0.0-2.0	0
	13-60	---	---	---	---	---	---
206:							
Pinitos-----	0-4	9.0-15	6.6-7.3	0-5	0	0.0-2.0	0
	4-10	15-19	6.6-7.3	5-10	0	0.0-2.0	0
	10-27	15-19	6.6-7.8	5-10	0	0.0-2.0	0
	27-39	15-19	7.4-7.8	8-12	0	0.0-2.0	0-2
	39-60	15-19	7.4-7.8	8-12	0	0.0-2.0	0-2

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
207:							
Penistaja-----	0-3	4.7-12	7.4-7.8	0-5	0	0.0-2.0	0-2
	3-29	12-21	7.4-7.8	5-10	0	0.0-2.0	0-2
	29-60	4.0-11	7.4-7.8	5-10	0	0.0-2.0	0-2
Zia-----	0-5	4.0-11	7.4-8.4	0-5	0	0.0-2.0	0-2
	5-60	3.1-11	7.4-8.4	0-5	0	0.0-2.0	0-2
208:							
Sedillo-----	0-2	4.6-12	7.4-7.8	0-5	0	0.0-2.0	0-5
	2-8	12-21	7.4-7.8	5-10	0	0.0-2.0	0-5
	8-12	4.0-11	7.4-7.8	20-25	0	0.0-2.0	0-5
	12-60	4.0-11	7.4-7.8	20-25	0	0.0-2.0	0-5
210:							
Ildefonso-----	0-3	12-18	7.4-8.4	5-10	0	0.0-2.0	0
	3-9	11-18	7.4-8.4	5-10	0	0.0-2.0	0
	9-60	9.8-17	7.9-8.4	15-20	0	0.0-4.0	0
211:							
Zia-----	0-5	4.0-11	7.4-7.8	0-5	0	0.0-2.0	0-2
	5-14	3.1-11	7.4-7.8	0-5	0	0.0-2.0	0-2
	14-33	3.1-11	7.4-7.8	5-10	0	0.0-2.0	0-2
	33-46	10-19	7.9-8.4	5-10	0	0.0-2.0	0-2
	46-60	3.1-11	7.9-8.4	5-10	0	0.0-2.0	0-2
Clovis-----	0-5	8.3-13	7.4-8.4	5-10	0	0.0-2.0	0-2
	5-60	12-23	6.6-8.4	20-25	0	0.0-2.0	0-2
213:							
Pinavetes-----	0-7	0.0-4.2	7.9-8.4	1-5	0	0.0-2.0	0
	7-60	0.0-4.0	8.5-8.9	1-5	0	0.0-2.0	0
Rock outcrop-----	0-60	---	---	---	---	---	---
215:							
Ess-----	0-7	5.4-14	6.1-7.8	0	0	0	0
	7-15	7.8-15	6.1-7.8	0	0	0	0
	15-29	15-22	6.1-7.8	0	0	0	0
	29-60	7.2-14	6.1-7.8	0	0	0	0
Rock outcrop-----	0-60	---	---	---	---	---	---

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
217: Witt-----	0-2	8.1-15	7.9-8.4	0-5	0	0.0-2.0	0-2
	2-9	9.8-17	7.9-8.4	0-5	0	0.0-2.0	0-2
	9-60	7.0-14	7.9-8.4	10-20	0	0.0-2.0	0-2
218: Ildefonso-----	0-4	12-18	7.4-8.4	5-10	0	0.0-2.0	0
	4-8	11-18	7.4-8.4	5-10	0	0.0-2.0	0
	8-60	4.0-11	7.9-8.4	15-20	0	0.0-4.0	0
220: Rock outcrop-----	0-60	---	---	---	---	---	---
Vessilla-----	0-2	4.0-11	7.9-8.4	5-10	0	0.0-2.0	0
	2-10	3.1-11	7.9-8.4	5-10	0	0.0-2.0	0
	10-60	---	---	---	---	---	---
Menefee-----	0-2	18-24	7.4-8.4	0-2	0-1	0.0-2.0	0
	2-10	14-23	7.4-8.4	0-5	0-1	0.0-2.0	0
	10-60	---	---	---	---	---	---
226: Galisteo, moderately saline, sodic-----	0-10	14-20	8.5-9.0	5-10	0	8.0-16.0	13-20
	10-60	14-22	8.5-9.0	5-10	0	8.0-16.0	13-20
227: Hagerman-----	0-4	8.1-15	6.6-7.8	0-5	0	0.0-2.0	0
	4-34	16-23	6.6-8.4	2-10	0	0.0-2.0	0
	34-60	---	---	---	---	---	---
Bond-----	0-4	3.8-7.6	7.4-7.8	0-5	0	0.0-2.0	0
	4-12	14-24	6.6-7.3	5-10	0	0.0-2.0	0
	12-60	---	---	---	---	---	---
228: Winona-----	0-2	4.6-13	7.4-7.8	5-10	0	2.0-4.0	0
	2-13	4.0-17	7.4-7.8	40-50	0	4.0-8.0	0
	13-60	---	---	---	---	---	---
230: Skyvillage-----	0-6	4.2-12	7.9-8.4	0-5	0	0.0-2.0	0
	6-11	3.1-11	7.4-7.8	5-10	0	0.0-2.0	0
	11-60	---	---	---	---	---	---

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
230: Sandoval-----	0-2	19-25	8.5-9.0	0-5	5-10	2.0-4.0	0-5
	2-10	14-23	7.9-8.4	5-10	5-10	2.0-4.0	0-5
	10-60	---	---	---	---	---	---
Rock outcrop-----	0-60	---	---	---	---	---	---
231: Querencia-----	0-3	11-18	7.9-8.4	0-5	0	0.0-2.0	0-5
	3-21	9.8-18	7.9-8.4	5-10	0	0.0-2.0	0-5
	21-60	9.8-17	7.9-8.4	5-10	0	0.0-2.0	0-5
234: Querencia-----	0-3	8.1-15	7.9-8.4	0-5	0	0.0-2.0	0-5
	3-25	12-19	7.9-8.4	5-10	0	0.0-2.0	0-5
	25-60	8.2-14	7.9-8.4	5-10	0	0.0-2.0	0-5
Zia-----	0-11	4.0-11	7.4-8.4	0-5	0	0.0-2.0	0-5
	11-60	3.1-11	7.4-8.4	10-15	0	0.0-2.0	0-5
235: Sandoval-----	0-2	7.8-14	8.5-9.0	0-5	5-10	2.0-4.0	8-13
	2-16	14-23	7.9-8.4	5-10	5-10	2.0-4.0	8-13
	16-19	14-22	7.9-8.4	5-10	5-10	2.0-4.0	8-13
	19-60	---	---	---	---	---	---
236: Sparank, moderately saline, sodic-----	0-2	19-25	8.5-9.0	0-5	0	8.0-16.0	13-30
	2-10	25-33	8.5-9.0	5-10	0	8.0-16.0	13-30
	10-24	25-32	7.9-8.4	5-10	0	8.0-16.0	13-30
	24-40	14-23	7.9-8.4	5-10	0	8.0-16.0	13-30
	40-44	19-30	7.9-8.4	5-10	0	8.0-16.0	13-30
	44-60	19-30	8.5-9.0	5-10	0	8.0-16.0	13-30
237: Sparank-----	0-4	19-25	7.4-8.4	0-5	0	2.0-4.0	5-10
	4-60	14-23	7.4-8.4	5-10	0	2.0-4.0	5-10
240: Penistaja-----	0-5	4.7-12	7.4-7.8	0-5	0	0.0-2.0	0-2
	5-14	19-24	7.4-7.8	0-5	0	0.0-2.0	0-2
	14-29	12-21	7.4-7.8	10-15	0	0.0-2.0	0-2
	29-60	9.8-17	7.4-7.8	10-15	0	0.0-2.0	0-2

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
240: Hagerman-----	0-2	8.1-15	7.9-8.4	0-5	0	0.0-2.0	0
	2-9	16-23	7.9-8.4	2-10	0	0.0-2.0	0
	9-24	16-23	7.9-8.4	2-10	0	0.0-2.0	0
	24-60	---	---	---	---	---	---
250: Pinavetes-----	0-4	4.0-7.8	7.9-8.4	1-5	0	0.0-2.0	0-5
	4-60	2.0-5.4	8.5-9.0	1-5	0	0.0-2.0	0-5
262: Pastura-----	0-3	15-20	7.9-8.4	5-10	0-1	0.0-2.0	0-5
	3-10	12-19	7.9-8.4	5-10	0-1	0.0-2.0	0-5
	10-14	12-18	7.9-8.4	10-15	0-1	0.0-2.0	0-5
	14-60	---	---	---	---	---	---
270: Blancot-----	0-2	4.6-12	7.9-8.4	0-5	0	0.0-2.0	0-2
	2-12	12-23	7.9-8.4	5-10	0	0.0-2.0	0-5
	12-21	16-23	7.9-8.4	5-10	0	0.0-2.0	5-13
	21-60	4.0-11	7.9-9.0	10-15	0	2.0-4.0	5-13
Cuncelor-----	0-2	3.1-11	7.9-8.4	5-10	0	0.0-2.0	0-5
	2-60	3.1-11	7.9-9.0	5-10	0	2.0-4.0	0-5
Tsosie-----	0-2	18-24	7.9-8.4	0-5	0	4.0-8.0	5-10
	2-10	11-17	8.5-9.0	5-10	0	4.0-8.0	5-10
	10-20	14-23	8.5-9.0	5-10	0	4.0-8.0	5-10
	20-26	14-22	8.5-9.0	5-10	0	4.0-8.0	5-10
	26-36	14-22	8.5-9.0	5-10	0	4.0-8.0	5-10
	36-44	3.1-11	7.9-8.4	5-10	0	4.0-8.0	5-10
	44-55	3.1-11	8.5-9.0	5-10	0	4.0-8.0	5-10
	55-60	3.1-11	8.5-9.0	5-10	0	4.0-8.0	5-10
281: Carjo-----	0-4	8.1-19	6.6-7.3	0	0	0.0-2.0	0
	4-12	17-21	6.6-7.3	0	0	0.0-2.0	0
	12-20	21-26	6.6-7.3	0	0	0.0-2.0	0
	20-25	3.2-6.0	7.4-7.8	0	0	0.0-2.0	0
	25-60	---	---	---	---	---	---

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
282:							
Tocal-----	0-5	4.2-11	6.6-7.3	0-1	0-1	0.0-2.0	0-2
	5-8	15-20	6.6-7.3	0-1	0-1	0.0-2.0	0-2
	8-11	21-26	6.6-7.3	0-1	0-1	0.0-2.0	0-2
	11-14	8.7-14	6.6-7.3	0-1	0-1	0.0-2.0	0-2
	14-60	---	---	---	---	---	---
283:							
Mirand-----	0-2	73-81	5.1-6.0	0	0	0.0-2.0	0
	2-6	13-19	6.6-7.3	0	0	0.0-2.0	0
	6-11	15-21	6.1-6.6	0	0	0.0-2.0	0
	11-17	15-19	6.6-7.3	0	0	0.0-2.0	0
	17-27	15-19	6.6-7.3	0	0	0.0-2.0	0
	27-47	21-28	6.1-6.5	0	0	0.0-2.0	0
	47-60	---	4.5-5.0	0	0	0.0-2.0	0
Alanos-----	0-6	9.0-15	5.6-7.3	0	0	0.0-2.0	0
	6-9	8.7-14	5.6-7.3	0	0	0.0-2.0	0
	9-30	15-19	5.6-7.3	0	0	0.0-2.0	0
	30-60	21-26	5.6-7.3	0	0	0.0-2.0	0
290:							
Alanos-----	0-4	9.0-15	6.6-7.3	0	0	0.0-2.0	0
	4-9	9.0-15	6.6-7.3	0	0	0.0-2.0	0
	9-18	8.7-14	5.6-6.0	0	0	0.0-2.0	0
	18-26	21-26	5.6-6.0	0	0	0.0-2.0	0
	26-60	21-26	5.6-6.0	0	0	0.0-2.0	0
Rock outcrop-----	0-60	---	---	---	---	---	---
300:							
Waumac-----	0-3	4.0-7.8	7.9-8.4	0-5	0	0.0-2.0	0-5
	3-31	3.1-11	7.9-8.4	5-10	0	0.0-2.0	0-5
	31-60	3.1-11	7.9-8.4	10-15	0	0.0-2.0	0-5
Bamac-----	0-6	4.0-7.8	7.9-8.4	0-5	0	0.0-2.0	0-5
	6-60	3.1-7.4	7.9-8.4	5-10	0	0.0-2.0	0-5
301:							
Vastine-----	0-4	14-22	6.6-7.3	0	0	0	0-5
	4-11	8.0-21	6.6-7.3	0	0	0	0-5
	11-24	10-17	6.6-7.3	0	0	0	0-5
	24-60	3.8-7.2	7.4-7.8	0	0	0.0-2.0	0-5

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
301: Jarola-----	0-9	13-21	6.1-6.5	0	0	0.0-2.0	0
	9-11	12-20	6.6-7.3	0	0	0.0-2.0	0
	11-17	19-25	6.6-7.3	0	0	0.0-2.0	0
	17-21	19-23	6.6-7.3	0	0	0.0-2.0	0
	21-42	14-20	6.6-7.3	0	0	0.0-2.0	0
	42-60	3.8-10	6.6-7.3	0	0	0.0-2.0	0
302: Tranquilar-----	0-4	22-29	6.1-6.5	0	0	0.0-2.0	0
	4-8	21-27	6.1-6.5	0	0	0.0-2.0	0
	8-11	19-26	6.1-6.5	0	0	0.0-2.0	0
	11-13	13-26	5.6-6.0	0	0	0.0-2.0	0
	13-20	---	5.1-5.5	0	0	0.0-2.0	0
	20-34	---	4.5-5.0	0	0	0.0-2.0	0
	34-42	---	4.5-5.0	0	0	0.0-2.0	0
	42-50	---	3.5-4.4	0	0	0.0-2.0	0
	50-60	---	4.5-5.0	0	0	0.0-2.0	0
Jarmillo-----	0-4	10.0-19	6.1-6.5	0	0	0.0-2.0	0
	4-13	9.2-17	6.1-6.5	0	0	0.0-2.0	0
	13-20	8.5-16	6.1-6.5	0	0	0.0-2.0	0
	20-26	7.2-14	6.6-7.3	0	0	0.0-2.0	0
	26-36	7.2-14	6.6-7.3	0	0	0.0-2.0	0
	36-41	3.8-10	6.6-7.3	0	0	0.0-2.0	0
	41-51	19-23	6.6-7.3	0	0	0.0-2.0	0
	51-60	5.8-12	6.6-7.3	0	0	0.0-2.0	0
304: Cosey-----	0-9	13-21	6.1-6.5	0	0	0.0-2.0	0
	9-15	13-20	6.1-6.5	0	0	0.0-2.0	0
	15-28	5.8-16	6.1-6.5	0	0	0.0-2.0	0
	28-34	14-23	6.1-6.5	0	0	0.0-2.0	0
	34-60	19-23	6.1-6.5	0	0	0.0-2.0	0
Jarmillo-----	0-17	14-22	6.1-6.5	0	0	0.0-2.0	0
	17-33	5.0-14	6.1-6.5	0	0	0.0-2.0	0
	33-60	3.8-10	6.6-7.3	0	0	0.0-2.0	0
307: Flugle-----	0-3	7.3-15	6.6-7.3	0	0	0.0-2.0	0
	3-7	11-19	6.6-7.3	0-5	0	0.0-2.0	0
	7-12	11-19	7.4-7.8	0-10	0	0.0-2.0	0
	12-19	11-19	7.4-7.8	0-10	0	0.0-2.0	0
	19-60	6.0-8.7	7.4-7.8	5-10	0	0.0-2.0	0

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
307: Waumac-----	0-3	4.0-7.8	7.9-8.4	0-5	0	0.0-2.0	0-5
	3-60	3.1-11	7.9-8.4	5-10	0	0.0-2.0	0-5
308: Cajete-----	0-7	10-17	6.6-7.3	0	0	0.0-2.0	0
	7-15	10-16	6.6-7.3	0	0	0.0-2.0	0
	15-33	3.9-10	6.6-7.3	0-5	0	0.0-2.0	0
	33-45	0.0-4.2	6.6-7.3	0-5	0	0.0-2.0	0
	45-49	0.0-3.9	7.4-7.8	0-5	0	0.0-2.0	0
	49-60	0.0-3.9	7.4-7.8	0-5	0	0.0-2.0	0
311: Cosey-----	0-13	13-21	6.1-7.3	0	0	0.0-2.0	0
	13-24	7.2-14	6.1-7.3	0	0	0.0-2.0	0
	24-60	19-23	6.1-7.3	0	0	0.0-2.0	0
Tranquilar-----	0-14	14-22	6.1-6.5	0	0	0.0-2.0	0
	14-20	8.0-21	5.6-6.5	0	0	0.0-2.0	0
	20-42	---	4.5-5.0	0	0	0.0-2.0	0
	42-60	---	4.5-5.0	0	0	0.0-2.0	0
Calaveras-----	0-4	10-16	6.1-6.5	0	0	0.0-2.0	0
	4-11	9.2-15	6.1-6.5	0	0	0.0-2.0	0
	11-17	5.9-15	6.1-6.5	0	0	0.0-2.0	0
	17-30	4.3-12	5.6-6.0	0	0	0.0-2.0	0
	30-39	2.5-9.2	6.6-7.3	0	0	0.0-2.0	0
	39-60	2.5-6.7	6.6-7.3	0	0	0.0-2.0	0
312: Royosa-----	0-5	0.0-4.5	7.4-7.8	0-3	0	0.0-2.0	0
	5-16	0.0-4.4	7.4-7.8	0-3	0	0.0-2.0	0
	16-60	0.0-7.4	7.4-7.8	0-3	0	0.0-2.0	0
314: Fragua-----	0-3	4.2-8.1	7.4-7.8	0	0	0.0-2.0	0
	3-8	6.0-10	7.4-7.8	0-5	0	0.0-2.0	0
	8-24	3.2-8.7	7.4-7.8	0-5	0	0.0-2.0	0
	24-60	6.0-8.7	7.4-7.8	5-10	0	0.0-2.0	0
Waumac-----	0-3	4.0-7.8	7.9-8.4	0-5	0	0.0-2.0	0-2
	3-60	3.1-11	7.9-8.4	5-10	0	0.0-2.0	0-2
Royosa-----	0-7	0.0-4.5	7.4-7.8	0-3	0	0.0-2.0	0
	7-60	0.0-4.2	7.4-7.8	0-3	0	0.0-2.0	0

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
317: Elpedro-----	0-2	9.0-14	7.4-7.8	5-15	0	0.0-2.0	0-5
	2-22	15-19	7.4-8.4	5-15	0	0.0-2.0	0-5
	22-60	11-15	7.4-8.4	5-15	0	0.0-2.0	0-5
319: Bamac-----	0-4	4.0-7.8	7.9-8.4	0-5	0	0.0-2.0	0-5
	4-10	3.1-7.4	7.9-8.4	5-10	0	0.0-2.0	0-5
	10-21	3.1-7.4	7.9-8.4	5-10	0	0.0-2.0	0-5
	21-37	3.1-7.4	7.9-8.4	5-10	0	0.0-2.0	0-5
	37-60	3.1-7.4	7.9-8.4	5-10	0	0.0-2.0	0-5
Rock outcrop-----	0-60	---	---	---	---	---	---
320: Sparham-----	0-9	11-18	6.6-7.3	0-5	0	2.0-4.0	5-10
	9-32	19-32	7.4-7.8	5-10	0	2.0-16.0	5-30
	32-60	19-30	7.9-8.4	5-10	0	2.0-16.0	5-30
321: Waumac-----	0-3	4.0-7.8	7.9-8.4	0-5	0	0.0-2.0	0-2
	3-60	3.1-11	7.9-8.4	5-10	0	0.0-2.0	0-2
Royosa-----	0-12	0.0-4.5	7.4-7.8	0-3	0	0.0-2.0	0
	12-60	0.0-4.2	7.4-7.8	0-3	0	0.0-2.0	0
322: Fragua-----	0-3	7.3-11	7.4-7.8	0	0	0.0-2.0	0
	3-16	6.0-10	7.4-7.8	0-5	0	0.0-2.0	0
	16-45	3.2-6.0	7.4-7.8	5-10	0	0.0-2.0	0
	45-60	---	---	---	---	---	---
324: Rock outcrop-----	0-60	---	---	---	---	---	---
Atarque-----	0-3	6.5-12	6.6-7.3	0	0	0.0-2.0	0
	3-9	14-19	6.6-7.8	0-5	0	0.0-2.0	0
	9-14	14-19	7.4-7.8	0-10	0	0.0-2.0	0
	14-60	---	---	---	---	---	---
Menefee-----	0-2	14-19	7.4-8.4	0-5	0-1	0.0-2.0	0
	2-9	14-23	7.4-8.4	0-5	0-1	0.0-2.0	0
	9-60	---	---	---	---	---	---

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
325: Rock outcrop-----	0-60	---	---	---	---	---	---
Espiritu-----	0-2	4.2-11	7.4-7.8	0	0	0.0-2.0	0-5
	2-20	14-19	7.4-7.8	0	0	0.0-2.0	0-5
	20-60	8.7-14	7.4-7.8	0-5	0	0.0-2.0	0-5
Vessilla-----	0-1	4.0-11	7.9-8.4	0	0	0.0-2.0	0
	1-10	5.7-14	7.9-8.4	5-10	0	0.0-2.0	0
	10-60	---	---	---	---	---	---
342: Waumac-----	0-5	4.0-7.8	7.9-8.4	0-5	0	0.0-2.0	0-5
	5-60	3.1-11	7.9-8.4	5-10	0	0.0-2.0	0-5
Vessilla-----	0-3	4.0-11	7.9-8.4	5-10	0	0.0-2.0	0
	3-13	3.1-11	7.9-8.4	5-10	0	0.0-2.0	0
	13-60	---	---	---	---	---	---
Rock outcrop-----	0-60	---	---	---	---	---	---
345: Espiritu-----	0-6	4.2-11	7.4-7.8	0-1	0	0.0-2.0	0-5
	6-15	14-19	7.4-7.8	0-1	0	0.0-2.0	0-5
	15-22	11-16	7.4-7.8	0-1	0	0.0-2.0	0-5
	22-29	11-16	7.4-7.8	0-5	0	0.0-2.0	0-5
	29-38	11-16	7.4-7.8	0-5	0	0.0-2.0	0-5
	38-46	6.0-11	7.4-7.8	0-1	0	0.0-2.0	0-5
	46-60	6.0-8.7	7.4-7.8	0-1	0	0.0-2.0	0-5
Bamac-----	0-3	4.0-7.8	7.9-8.4	0-5	0	0.0-2.0	0-5
	3-30	3.1-7.4	7.9-8.4	5-10	0	0.0-2.0	0-5
	30-60	3.1-7.4	7.9-8.4	5-10	0	0.0-2.0	0-5
346: Espiritu, cobbly-----	0-2	4.2-11	7.4-7.8	0	0	0.0-2.0	0-5
	2-24	14-19	7.4-7.8	0-5	0	0.0-2.0	0-5
	24-36	6.0-10	7.4-7.8	5-10	0	0.0-2.0	0-5
	36-60	3.2-6.0	7.4-7.8	5-10	0	0.0-2.0	0-5
Bamac-----	0-3	4.0-7.8	7.9-8.4	0-5	0	0.0-2.0	0-5
	3-30	3.1-7.4	7.9-8.4	5-10	0	0.0-2.0	0-5
	30-45	3.1-7.4	7.9-8.4	5-10	0	0.0-2.0	0-5
	45-60	3.1-7.4	7.9-8.4	5-10	0	0.0-2.0	0-5

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
348:							
Wauquie-----	0-2	11-18	6.6-7.3	0-3	0	0.0-2.0	0
	2-16	15-19	6.6-7.3	0-3	0	0.0-2.0	0
	16-40	3.2-8.7	7.4-7.8	0-3	0	0.0-2.0	0
	40-60	3.2-6.0	7.4-7.8	0-3	0	0.0-2.0	0
Rock outcrop-----	0-60	---	---	---	---	---	---
353:							
Cochiti-----	0-4	9.0-15	6.6-7.3	0	0	0.0-2.0	0
	4-22	16-21	6.1-7.3	0-5	0	0.0-2.0	0
	22-60	3.2-6.0	6.6-7.8	5-10	0	0.0-2.0	0
Espiritu-----	0-3	10-17	7.4-7.8	0	0	0.0-2.0	0-5
	3-16	14-19	7.4-7.8	0-5	0	0.0-2.0	0-5
	16-60	3.2-6.0	7.4-7.8	5-10	0	0.0-2.0	0-5
354:							
Waumac Variant-----	0-3	4.0-11	7.4-7.8	0-5	0	0.0-2.0	0-5
	3-12	3.1-11	7.4-7.8	0-5	0	0.0-2.0	0-5
	12-60	---	---	---	---	---	---
358:							
Deama-----	0-3	13-24	7.9-8.4	10-30	0	0.0-2.0	0-5
	3-19	11-18	7.9-8.4	40-60	0	0.0-2.0	0-5
	19-60	---	---	---	---	---	---
Elpedro-----	0-3	9.0-14	7.4-7.8	5-15	0	0.0-2.0	0-5
	3-37	15-19	7.4-8.4	5-15	0	0.0-2.0	0-5
	37-60	11-15	7.4-8.4	5-15	0	0.0-2.0	0-5
Rock outcrop-----	0-60	---	---	---	---	---	---
396:							
Atarque-----	0-2	6.5-12	6.6-7.3	0	0	0.0-2.0	0-5
	2-16	14-19	6.6-7.8	0-5	0	0.0-2.0	0-5
	16-60	---	---	---	---	---	---
Menefee-----	0-2	18-24	7.4-8.4	0-5	0	0.0-2.0	0
	2-14	14-22	7.4-8.4	5-10	0	0.0-2.0	0
	14-60	---	---	---	---	---	---
Rock outcrop-----	0-60	---	---	---	---	---	---

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
397:							
Rock outcrop-----	0-60	---	---	---	---	---	---
Cucho-----	0-2	18-23	7.4-7.8	0-5	0	0.0-2.0	0
	2-9	14-22	6.6-7.3	10-15	0	0.0-2.0	0
	9-37	14-22	7.4-7.8	10-15	0	0.0-2.0	0
	37-60	---	---	---	---	---	---
Vessilla-----	0-2	4.0-11	7.9-8.4	0	0	0.0-2.0	0
	2-11	3.1-11	7.9-8.4	5-10	0	0.0-2.0	0
	11-60	---	---	---	---	---	---
398:							
Espiritu-----	0-4	7.3-13	7.4-7.8	0-1	0	0.0-2.0	0-2
	4-24	14-19	7.4-7.8	0-1	0	0.0-2.0	0-2
	24-60	6.0-8.7	7.4-7.8	0-1	0	0.0-2.0	0-2
Cucho-----	0-2	18-23	7.4-7.8	0-5	0	0.0-2.0	0
	2-37	14-22	6.6-7.8	10-15	0	0.0-2.0	0
	37-60	---	---	---	---	---	---
399:							
Cucho-----	0-2	18-23	7.4-7.8	0-5	0	0.0-2.0	0
	2-37	14-22	6.6-7.8	10-15	0	0.0-2.0	0
	37-60	---	---	---	---	---	---
Teco-----	0-1	3.7-11	7.4-7.8	0	0	0.0-2.0	0
	1-7	18-29	7.4-7.8	0-5	0	0.0-2.0	0
	7-23	21-26	7.4-7.8	0-5	0	0.0-2.0	0
	23-40	21-26	7.4-7.8	0-5	0	0.0-2.0	0
	40-45	3.2-8.7	7.4-7.8	8-13	0	0.0-2.0	0
	45-60	11-16	7.4-7.8	5-10	0	4.0-8.0	0
405:							
Charo-----	0-5	15-20	6.6-7.3	0	0	0.0-2.0	0
	5-12	26-38	6.6-7.3	0	0	0.0-2.0	0
	12-15	26-38	6.6-7.3	0	0	0.0-2.0	0
	15-25	26-38	7.4-7.8	0	0	0.0-2.0	0
	25-28	26-38	7.4-7.8	0	0	0.0-2.0	0
	28-60	---	---	---	---	---	---
Charo, noncobbly-----	0-8	15-20	6.6-7.3	0	0	0.0-2.0	0
	8-38	26-38	6.6-7.8	0	0	0.0-2.0	0
	38-60	---	---	---	---	---	---

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
409: Santa Fe-----	0-3	9.2-14	6.6-7.3	0	0	0.0-2.0	0
	3-8	14-23	6.6-7.3	0	0	0.0-2.0	0
	8-60	---	---	---	---	---	---
410: Zia-----	0-10	7.4-14	7.4-8.4	0-5	0	0.0-2.0	0-5
	10-60	3.1-11	7.4-8.4	10-15	0	0.0-2.0	0-5
414: Wauquie-----	0-3	3.7-10	6.6-7.3	0-5	0	0.0-2.0	0-5
	3-30	11-16	6.6-7.3	0-5	0	0.0-2.0	0-5
	30-60	3.2-6.0	7.4-7.8	5-10	0	0.0-2.0	0-5
417: Jocity-----	0-10	11-17	7.9-8.4	0	0	2.0-4.0	0
	10-26	14-23	7.9-8.4	1-5	0	2.0-4.0	0
	26-32	8.1-16	7.9-8.4	1-5	0	2.0-4.0	0
	32-50	10-19	7.9-8.4	1-5	0	2.0-4.0	0-5
	50-56	3.1-11	8.5-8.9	1-5	0	2.0-4.0	0-5
	56-60	3.1-7.4	7.9-8.4	1-5	0	2.0-4.0	0-5
418: Jocity-----	0-12	18-23	7.4-8.4	0	0	2.0-4.0	0
	12-30	14-22	7.4-8.4	1-5	0	2.0-4.0	0
	30-60	2.0-7.4	7.9-9.0	1-5	0	2.0-4.0	0-5
419: Santa Fe-----	0-9	5.4-14	6.6-7.3	0	0	0.0-2.0	0
	9-16	14-23	6.6-7.3	0	0	0.0-2.0	0
	16-60	---	---	---	---	---	---
Wauquie-----	0-4	3.7-10	6.6-7.3	0	0	0.0-2.0	0
	4-11	11-16	6.6-7.3	0-5	0	0.0-2.0	0
	11-18	11-16	6.6-7.3	0-5	0	0.0-2.0	0
	18-29	3.2-8.7	7.4-7.8	0-5	0	0.0-2.0	0
	29-60	0.0-3.2	7.4-7.8	5-10	0	0.0-2.0	0
Rock outcrop-----	0-60	---	---	---	---	---	---
420: Pinavetes-----	0-10	2.6-7.8	7.9-8.4	1-5	0	0.0-2.0	0-5
	10-60	0.0-4.0	8.5-8.9	1-5	0	0.0-2.0	0-5

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
421: Gilco, moderately saline, sodic-----	0-7	7.4-14	7.9-8.4	5-10	0	8.0-16.0	8-13
	7-19	5.7-12	7.9-8.4	5-10	0	8.0-16.0	13-30
	19-60	5.7-12	7.9-8.4	5-10	0	8.0-16.0	13-30
422: Vessilla-----	0-1	4.0-11	7.9-8.4	5-10	0	0.0-2.0	0
	1-15	3.1-11	7.9-8.4	5-10	0	0.0-2.0	0
	15-60	---	---	---	---	---	---
Menefee-----	0-3	18-24	7.4-8.4	5-10	0-1	0.0-2.0	0
	3-10	14-23	7.4-8.4	10-15	0-1	0.0-2.0	0
	10-60	---	---	---	---	---	---
Orlie-----	0-4	14-19	7.9-8.4	0	0	0.0-2.0	0
	4-14	8.8-21	7.9-8.4	0-5	0	0.0-2.0	0-2
	14-60	15-19	7.9-8.4	5-10	0	2.0-4.0	0-2
423: Gilco-----	0-8	7.4-13	6.6-8.4	0-5	0	0.0-4.0	0-5
	8-14	5.7-12	6.6-8.4	0-5	0	0.0-4.0	0-5
	14-60	5.7-12	6.6-8.4	5-10	0	0.0-4.0	0-5
426: Aga, moderately saline, sodic-----	0-8	7.4-14	6.6-8.4	5-10	0	8.0-16.0	13-30
	8-20	5.7-14	7.4-8.4	5-10	0	8.0-16.0	13-30
	20-36	0.0-7.4	7.4-8.4	5-10	0	8.0-16.0	13-30
	36-60	0.0-4.0	7.4-8.4	5-10	0	8.0-16.0	13-30
427: Aga-----	0-8	7.4-14	6.6-8.4	0-5	0	0.0-2.0	0-5
	8-28	5.7-14	6.6-8.4	5-10	0	2.0-4.0	0-5
	28-60	0.0-7.4	6.6-8.4	5-10	0	2.0-4.0	0-5
428: Aga, moderately saline, sodic-----	0-4	7.4-14	6.6-8.4	5-10	0	8.0-16.0	13-30
	4-16	3.1-11	7.4-8.4	5-10	0	8.0-16.0	13-30
	16-22	5.7-14	7.4-8.4	5-10	0	8.0-16.0	13-30
	22-60	0.0-7.4	7.4-8.4	5-10	0	8.0-16.0	13-30

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
430: Trail-----	0-10	7.4-14	7.9-8.4	1-5	0	0.0-4.0	0-5
	10-34	3.1-7.4	8.5-9.0	1-5	0	0.0-4.0	0-5
	34-60	0.0-4.0	8.5-9.0	1-5	0	0.0-4.0	0-5
431: Trail-----	0-10	4.0-7.8	7.9-8.4	1-5	0	0.0-4.0	0-5
	10-60	0.0-7.4	8.5-9.0	1-5	0	0.0-4.0	0-5
433: Peralta-----	0-10	11-17	7.4-7.8	0-5	0	4.0-8.0	5-13
	10-60	5.7-14	7.9-8.4	5-10	0	4.0-8.0	5-13
434: Peralta-----	0-10	11-18	7.4-7.8	0-5	0	4.0-8.0	5-13
	10-16	4.0-11	7.9-8.4	5-10	0	4.0-8.0	5-13
	16-20	14-23	7.9-8.4	5-10	0	4.0-8.0	5-13
	20-28	3.1-11	7.9-8.4	5-10	0	4.0-8.0	5-13
	28-40	3.1-7.4	7.9-8.4	5-10	0	4.0-8.0	5-13
	40-45	8.1-16	7.9-8.4	5-10	0	4.0-8.0	5-13
	45-60	3.1-7.4	7.4-7.8	5-10	0	4.0-8.0	5-13
437: Peralta, moderately saline, sodic-----	0-4	7.4-14	7.4-7.8	0-5	0	8.0-16.0	13-30
	4-60	3.1-11	7.9-8.4	5-10	0	8.0-16.0	13-30
500: Rock outcrop-----	0-60	---	---	---	---	---	---
Osha-----	0-10	5.4-10.0	6.6-7.3	0	0	0.0-2.0	0
	10-20	5.0-9.7	6.6-7.3	0	0	0.0-2.0	0
	20-43	2.3-5.2	6.6-7.3	0	0	0.0-2.0	0
	43-60	---	---	---	---	---	---
Rubble Land-----	0-60	---	---	0	0	0	0
503: Cajete-----	0-8	6.2-11	6.6-7.3	0	0	0.0-2.0	0
	8-60	6.7-10	6.6-7.3	0-5	0	0.0-2.0	0
Cypher-----	0-3	6.7-13	5.6-6.5	0	0	0.0-2.0	0
	3-11	2.5-9.2	5.6-6.5	0	0	0.0-2.0	0
	11-15	2.5-9.2	5.6-6.5	0	0	0.0-2.0	0
	15-60	---	---	---	---	---	---

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In.	meq/100 g	pH	Pct.	Pct.	mmhos/cm	
504:							
Orejas-----	0-2	9.0-15	6.6-7.3	0	0	0.0-2.0	0-2
	2-9	15-19	7.4-7.8	5-10	0	0.0-2.0	0-2
	9-17	15-19	7.9-8.4	5-10	0	0.0-2.0	0-5
	17-60	---	---	---	---	---	---
Guaje-----	0-4	4.2-11	7.4-7.8	0-2	0	0.0-2.0	0-2
	4-12	3.9-10	7.4-7.8	0-2	0	0.0-2.0	0-2
	12-17	2.5-9.2	7.9-8.4	15-20	0	0.0-2.0	0-5
	17-45	2.5-9.2	7.9-8.4	15-20	0	0.0-2.0	0-5
	45-60	2.5-9.2	7.9-8.4	15-20	0	0.0-2.0	0-5
600:							
Rock outcrop-----	0-60	---	---	---	---	---	---
Cypher-----	0-4	6.7-13	5.6-6.5	0	0	0.0-2.0	0
	4-14	4.3-14	5.6-6.5	0	0	0.0-2.0	0
	14-16	4.3-14	5.6-6.5	0	0	0.0-2.0	0
	16-60	---	---	---	---	---	---
601:							
Laventana-----	0-5	4.2-11	6.1-6.5	0	0	0.0-2.0	0
	5-9	6.0-11	6.1-6.5	0	0	0.0-2.0	0
	9-50	11-19	6.1-7.3	0	0	0.0-2.0	0
	50-60	---	---	---	---	---	---
603:							
Laventana-----	0-1	73-81	5.1-6.0	0	0	0.0-2.0	0
	1-5	10-17	6.1-6.5	0	0	0.0-2.0	0
	5-12	8.7-14	6.1-6.5	0	0	0.0-2.0	0
	12-20	11-14	6.1-6.5	0	0	0.0-2.0	0
	20-31	11-15	6.1-6.5	0	0	0.0-2.0	0
	31-51	8.7-14	6.6-7.3	0	0	0.0-2.0	0
	51-60	---	---	---	---	---	---
Mirand-----	0-6	13-19	6.6-7.3	0	0	0.0-2.0	0
	6-27	21-31	6.6-7.3	0	0	0.0-2.0	0
	27-60	19-26	6.6-7.3	0	0	0.0-2.0	0
604:							
Cypher-----	0-1	73-81	5.1-6.0	0	0	0.0-2.0	0
	1-4	6.7-13	5.6-6.5	0	0	0.0-2.0	0
	4-11	4.3-14	5.6-6.5	0	0	0.0-2.0	0
	11-19	2.5-9.2	5.6-6.5	0	0	0.0-2.0	0
	19-60	---	---	---	---	---	---

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
604: Mirand-----	0-4	11-17	6.6-7.3	0	0	0.0-2.0	0
	4-60	21-26	6.6-7.3	0	0	0.0-2.0	0
608: Osha, steep-----	0-3	5.4-14	6.6-7.3	0	0	0.0-2.0	0
	3-8	3.4-14	6.1-6.5	0	0	0.0-2.0	0
	8-16	3.8-10	6.6-7.3	0	0	0.0-2.0	0
	16-32	3.8-10	6.6-7.3	0	0	0.0-2.0	0
	32-60	0.0-3.8	6.6-7.3	0	0	0.0-2.0	0
Osha-----	0-8	4.2-9.7	6.6-7.3	0	0	0.0-2.0	0
	8-16	4.5-8.5	6.6-7.3	0	0	0.0-2.0	0
	16-32	4.5-8.5	6.1-7.3	0	0	0.0-2.0	0
	32-60	3.1-5.8	6.1-7.3	0	0	0.0-2.0	0
823: Gilco, unprotected---	0-8	7.4-13	6.6-8.4	0-5	0	0.0-4.0	0-5
	8-60	5.7-12	6.6-8.4	5-10	0	0.0-4.0	0-5
827: Aga, unprotected-----	0-8	7.4-14	6.6-8.4	0-5	0	0.0-2.0	0-5
	8-28	5.7-14	6.6-8.4	5-10	0	2.0-4.0	0-5
	28-60	3.1-7.4	6.6-8.4	5-10	0	2.0-4.0	0-5
830: Trail, unprotected---	0-8	7.4-14	7.9-8.4	1-5	0	0.0-4.0	0-5
	8-60	0.0-7.4	8.5-9.0	1-5	0	0.0-4.0	0-5
831: Trail, unprotected---	0-10	3.1-7.8	7.9-8.4	1-5	0	0.0-2.0	0-5
	10-30	3.1-7.4	8.5-9.0	1-5	0	0.0-2.0	0-5
	30-60	0.0-4.0	8.5-9.0	1-5	0	0.0-2.0	0-5
835: Peralta, unprotected-	0-6	7.4-14	7.4-7.8	5-10	0	4.0-8.0	0-5
	6-16	5.7-14	7.9-8.4	5-10	0	4.0-8.0	0-5
	16-60	8.1-22	7.9-8.4	5-10	0	4.0-8.0	0-5
842: Peralta, moderately saline, sodic, unprotected-----	0-10	18-23	7.4-7.8	0-5	0	8.0-16.0	13-30
	10-60	8.1-22	7.9-8.4	5-10	0	8.0-16.0	13-30

Table 16.--Chemical properties of the soils--continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
850: Water-----	---	---	---	---	---	---	---
DAM: Dam-----	---	---	---	---	---	---	---

Table 17.--Soil features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.		Uncoated steel	Concrete
1:					
Silver-----	---	---	Low	High	Low
Clovis-----	---	---	Low	High	Low
2:					
Clovis-----	---	---	Low	High	Low
Prieta-----	Bedrock (lithic)	10-20	Low	High	Low
Silver-----	---	---	Low	High	Low
3:					
Montecito-----	---	---	Low	High	Low
Orejas-----	Bedrock (lithic)	10-20	Low	Moderate	Low
4:					
Montecito-----	---	---	Low	High	Low
Montecito, bouldery----	---	---	Low	High	Low
10:					
Trail-----	---	---	Low	High	Low
11:					
Trail-----	---	---	Low	High	Low
13:					
Sandoval-----	Bedrock (paralithic)	10-20	Low	High	Low
Querencia-----	---	---	Low	Moderate	Low
15:					
Camino-----	Bedrock (paralithic)	40-60	Low	High	Low
Sandoval-----	Bedrock (paralithic)	10-20	Low	High	Low
16:					
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
Prieta-----	Bedrock (lithic)	10-20	Low	High	Low
17:					
Vessilla-----	Bedrock (lithic)	4-20	Low	High	Low
Menefee-----	Bedrock (paralithic)	8-20	Moderate	High	Moderate
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
18:					
Sparham-----	---	---	Low	High	Low
20:					
Gilco-----	---	---	Low	High	Low
21:					
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
Hackroy-----	Bedrock (lithic)	8-20	Moderate	Moderate	Low

Table 17.--Soil features---continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		<u>In.</u>			
22: Aga-----	---	---	Low	High	Low
23: Hickman-----	---	---	Low	High	Low
24: Orlie-----	---	---	Moderate	High	Low
Sparham-----	---	---	Low	High	Low
25: Gilco-----	---	---	Low	High	Low
26: Orlie-----	---	---	Moderate	High	Low
27: Aga-----	---	---	Low	High	Low
29: Trail-----	---	---	Low	High	Moderate
31: Riverwash-----	---	---	---	---	---
33: Pits-----	---	---	---	---	---
34: Ildefonso-----	---	---	Low	High	Low
Witt-----	---	---	Moderate	High	Low
41: Dune land-----	---	---	---	---	---
47: Cascajo-----	---	---	Low	High	Low
51: Sparham-----	---	---	Low	High	Low
52: Totavi-----	---	---	Low	Moderate	Low
53: Witt-----	---	---	Moderate	High	Low
Harvey-----	---	---	Low	High	Low
54: Harvey-----	---	---	Low	High	Low
Cascajo-----	---	---	Low	High	Low
55: La Fonda-----	---	---	Low	High	Low
56: Ildefonso-----	---	---	Low	High	Low

Table 17.--Soil features--continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.		Uncoated steel	Concrete
57: Badland-----	Bedrock (paralithic)	0-0	Low	High	Moderate
58: Deama-----	Bedrock (lithic)	10-20	Low	Moderate	Low
Elpedro-----	---	---	Moderate	High	Low
59: Harvey-----	---	---	Low	High	Low
Ildefonso-----	---	---	Low	High	Low
La Fonda-----	---	---	Low	High	Low
63: Placitas-----	Bedrock (lithic)	20-40	Low	High	Low
64: Skyvillage-----	Bedrock (lithic)	6-20	Low	Moderate	Low
Ildefonso-----	---	---	Low	High	Low
65: Ildefonso-----	---	---	Low	High	Low
Harvey-----	---	---	Low	High	Low
66: Zia-----	---	---	Low	High	Low
67: Sandoval-----	Bedrock (paralithic)	10-20	Low	High	Low
Poley-----	---	---	Low	High	Low
68: Penistaja-----	---	---	Low	High	Low
Querencia-----	---	---	Low	Moderate	Low
71: Palon-----	---	---	Moderate	Moderate	Moderate
72: Palon-----	---	---	Moderate	Moderate	Moderate
74: Origo-----	---	---	Moderate	High	High
Pavo-----	---	---	Moderate	Moderate	Low
75: Origo-----	---	---	Moderate	High	High
82: Calaveras-----	---	---	Moderate	Moderate	Moderate
83: Calaveras-----	---	---	Moderate	Moderate	Moderate
Rubble land-----	---	---	---	---	---

Table 17.--Soil features--continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.		Uncoated steel	Concrete
85: Redondo-----	---	---	Moderate	Moderate	Moderate
86: Redondo-----	---	---	Moderate	Moderate	Moderate
87: Redondo-----	---	---	Moderate	Moderate	Moderate
Rubble land-----	---	---	---	---	---
88: Totavi-----	---	---	Low	Moderate	Low
Jemez-----	Bedrock (lithic)	20-40	Moderate	Moderate	Low
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
91: Zia-----	---	---	Low	High	Low
92: Galisteo, moderately saline, sodic-----	---	---	Low	High	Low
93: Zia-----	---	---	Low	High	Low
95: El Rancho-----	---	---	Low	High	Low
97: El Rancho-----	---	---	Moderate	High	Low
100: Orejas-----	Bedrock (lithic)	10-20	Low	Moderate	Low
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
101: Blancot-----	---	---	Low	High	Low
Lybrook-----	---	---	Low	High	Low
102: Sparham-----	---	---	Low	High	Low
104: Cochiti-----	---	---	Moderate	Moderate	Low
Montecito-----	---	---	Low	High	Low
105: Badland-----	Bedrock (paralithic)	0-0	Low	High	Moderate
Menefee-----	Bedrock (paralithic)	8-20	Moderate	High	Moderate
106: Stumble-----	---	---	Low	High	Low
Stumble, sandy-----	---	---	Low	High	Low

Table 17.--Soil features--continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.		Uncoated steel	Concrete
108: Embudo-----	---	---	Low	High	Low
109: Embudo-----	---	---	Low	High	Low
Tijeras-----	---	---	Low	High	Low
110: Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
Saido-----	---	---	Low	High	High
111: Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
Zia-----	---	---	Low	High	Low
112: Tijeras-----	---	---	Low	High	Low
114: San Mateo-----	---	---	Low	High	Low
Zia-----	---	---	Low	High	Low
120: Pinavetes-----	---	---	Low	Moderate	Low
124: Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
129: Menefee-----	Bedrock (paralithic)	8-20	Moderate	High	Moderate
130: Pinavetes-----	---	---	Low	Moderate	Low
Galisteo, moderately saline, sodic-----	---	---	Low	High	Low
142: Grieta-----	---	---	Moderate	High	Low
143: Clovis-----	---	---	Low	High	Low
145: Grieta-----	---	---	Moderate	High	Low
Sheppard-----	---	---	Low	High	Moderate
146: Sedmar-----	Bedrock (lithic)	6-20	Low	Moderate	Low
150: Doakum-----	---	---	Low	High	Low
Betonnie-----	---	---	Low	Moderate	Low
162: Hackroy-----	Bedrock (lithic)	8-20	Moderate	Moderate	Low

Table 17.--Soil features--continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.		Uncoated steel	Concrete
162: Nyjack-----	Bedrock (paralithic)	20-40	Moderate	Moderate	Low
163: Jemez-----	Bedrock (lithic)	20-40	Moderate	Moderate	Low
170: San Mateo-----	---	---	Low	High	Low
180: Cuncelor-----	---	---	Low	Moderate	Low
Eslando-----	Bedrock (paralithic)	4-20	Low	Moderate	Low
Mespun-----	---	---	Low	Moderate	Low
183: Sheppard-----	---	---	Low	High	Moderate
185: Frijoles-----	Abrupt textural change	15-30	Moderate	Moderate	Low
190: Zia-----	---	---	Low	High	Low
Skyvillage-----	Bedrock (lithic)	6-20	Low	Moderate	Low
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
191: Sheppard-----	---	---	Low	High	Moderate
200: Sedillo-----	---	---	Low	High	Low
201: Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
Sedgran-----	Bedrock (lithic)	6-20	Low	Low	Low
206: Pinitos-----	---	---	Moderate	Moderate	Low
207: Penistaja-----	---	---	Low	High	Low
Zia-----	---	---	Low	High	Low
208: Sedillo-----	---	---	Low	High	Low
210: Ildefonso-----	---	---	Low	High	Low
211: Zia-----	---	---	Low	High	Low
Clovis-----	---	---	Low	High	Low
213: Pinavetes-----	---	---	Low	Moderate	Low
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---

Table 17.--Soil features--continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.		Uncoated steel	Concrete
215: Ess-----	---	---	Moderate	Moderate	Moderate
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
217: Witt-----	---	---	Moderate	High	Low
218: Ildefonso-----	---	---	Low	High	Low
220: Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
Vessilla-----	Bedrock (lithic)	4-20	Low	High	Low
Menefee-----	Bedrock (paralithic)	8-20	Moderate	High	Moderate
226: Galisteo, moderately saline, sodic-----	---	---	Low	High	Low
227: Hagerman-----	Bedrock (lithic)	20-40	Low	High	Low
Bond-----	Bedrock (lithic)	6-20	Low	High	Low
228: Winona-----	Bedrock (lithic)	5-20	Low	High	Low
230: Skyvillage-----	Bedrock (lithic)	6-20	Low	Moderate	Low
Sandoval-----	Bedrock (paralithic)	10-20	Low	High	Low
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
231: Querencia-----	---	---	Low	Moderate	Low
234: Querencia-----	---	---	Low	Moderate	Low
Zia-----	---	---	Low	High	Low
235: Sandoval-----	Bedrock (paralithic)	10-20	Low	High	Low
236: Sparank, moderately saline, sodic-----	---	---	Low	High	Low
237: Sparank-----	---	---	Low	High	Low
240: Penistaja-----	---	---	Low	High	Low
Hagerman-----	Bedrock (lithic)	20-40	Low	High	Low
250: Pinavetes-----	---	---	Low	Moderate	Low

Table 17.--Soil features--continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.		Uncoated steel	Concrete
262: Pastura-----	Petrocalcic	5-20	Low	High	Low
270: Blancot-----	---	---	Low	High	Low
Councilor-----	---	---	Low	Moderate	Low
Tsosie-----	---	---	Low	High	Low
281: Carjo-----	Bedrock (lithic)	20-40	Moderate	Moderate	Low
282: Tocal-----	Bedrock (paralithic)	8-20	Moderate	Moderate	Low
283: Mirand-----	---	---	Low	Moderate	Low
Alanos-----	---	---	Moderate	Moderate	Moderate
290: Alanos-----	---	---	Moderate	Moderate	Moderate
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
300: Waumac-----	---	---	Moderate	High	Low
Bamac-----	---	---	Low	High	Low
301: Vastine-----	---	---	High	High	Low
Jarola-----	---	---	Moderate	Moderate	Moderate
302: Tranquilar-----	---	---	Moderate	High	High
Jarmillo-----	---	---	Moderate	Moderate	Low
304: Cosey-----	---	---	Moderate	Moderate	Low
Jarmillo-----	---	---	Moderate	Moderate	Low
307: Flugle-----	---	---	Moderate	High	Low
Waumac-----	---	---	Moderate	High	Low
308: Cajete-----	---	---	Moderate	Moderate	Low
311: Cosey-----	---	---	Moderate	Moderate	Low
Tranquilar-----	---	---	Moderate	High	High
Calaveras-----	---	---	Moderate	Moderate	Moderate
312: Royosa-----	---	---	Low	Moderate	Low

Table 17.--Soil features--continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.		Uncoated steel	Concrete
314:					
Fragua-----	---	---	Moderate	Low	Low
Waumac-----	---	---	Moderate	High	Low
Royosa-----	---	---	Low	Moderate	Low
317:					
Elpedro-----	---	---	Moderate	High	Low
319:					
Bamac-----	---	---	Low	High	Low
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
320:					
Sparham-----	---	---	Low	High	Low
321:					
Waumac-----	---	---	Moderate	High	Low
Royosa-----	---	---	Low	Moderate	Low
322:					
Fragua-----	Bedrock (paralithic)	40-80	Moderate	Low	Low
324:					
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
Atarque-----	Bedrock (lithic)	8-20	Low	Moderate	Low
Menefee-----	Bedrock (paralithic)	8-20	Moderate	High	Moderate
325:					
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
Espiritu-----	---	---	Moderate	Low	Low
Vessilla-----	Bedrock (lithic)	4-20	Moderate	High	Low
342:					
Waumac-----	---	---	Moderate	High	Low
Vessilla-----	Bedrock (lithic)	4-20	Low	High	Low
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
345:					
Espiritu-----	---	---	Moderate	Low	Low
Bamac-----	---	---	Low	High	Low
346:					
Espiritu, cobbly-----	---	---	Moderate	Low	Low
Bamac-----	---	---	Low	High	Low
348:					
Wauquie-----	---	---	Moderate	Moderate	Low
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---

Table 17.--Soil features--continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.		Uncoated steel	Concrete
353:					
Cochiti-----	---	---	Moderate	Moderate	Low
Espiritu-----	---	---	Moderate	Low	Low
354:					
Waumac Variant-----	Bedrock (paralithic)	10-20	Moderate	Low	Low
358:					
Deama-----	Bedrock (lithic)	10-20	Low	High	Low
Elpedro-----	---	---	Moderate	High	Low
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
396:					
Atarque-----	Bedrock (lithic)	8-20	Low	Moderate	Low
Menefee-----	Bedrock (paralithic)	8-20	Moderate	High	Moderate
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
397:					
Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
Cucho-----	Bedrock (paralithic)	20-40	Moderate	Moderate	Low
Vessilla-----	Bedrock (lithic)	4-20	Moderate	High	Low
398:					
Espiritu-----	---	---	Moderate	Low	Low
Cucho-----	Bedrock (paralithic)	20-40	Moderate	Moderate	Low
399:					
Cucho-----	Bedrock (paralithic)	20-40	Moderate	Moderate	Low
Teco-----	---	---	Moderate	High	Low
405:					
Charo-----	Bedrock (lithic)	20-40	Low	Moderate	Low
Charo, noncobbly-----	Bedrock (lithic)	20-40	Low	Moderate	Low
409:					
Santa Fe-----	Bedrock (lithic)	8-20	Low	Moderate	Low
410:					
Zia-----	---	---	Low	High	Low
414:					
Wauquie-----	---	---	Moderate	Moderate	Low
417:					
Jocity-----	---	---	Low	High	Moderate
418:					
Jocity-----	---	---	Low	High	Moderate
419:					
Santa Fe-----	Bedrock (lithic)	8-20	Low	Moderate	Low
Wauquie-----	---	---	Moderate	Moderate	Low

Table 17.--Soil features--continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.		Uncoated steel	Concrete
419: Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
420: Pinavetes-----	---	---	Low	Moderate	Low
421: Gilco, moderately saline, sodic-----	---	---	Low	High	Low
422: Vessilla-----	Bedrock (lithic)	4-20	Low	High	Low
Menefee-----	Bedrock (paralithic)	8-20	Moderate	High	Moderate
Orlie-----	---	---	Moderate	High	Low
423: Gilco-----	---	---	Low	High	Low
426: Aga, moderately saline, sodic-----	---	---	Low	High	Low
427: Aga-----	---	---	Low	High	Low
428: Aga, moderately saline, sodic-----	---	---	Low	High	Low
430: Trail-----	---	---	Low	High	Low
431: Trail-----	---	---	Low	High	Low
433: Peralta-----	---	---	Low	High	Moderate
434: Peralta-----	---	---	Low	High	Moderate
437: Peralta, moderately saline, sodic-----	---	---	Low	High	High
500: Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
Osha-----	Bedrock (lithic)	40-60	Low	Low	Low
Rubble land-----	---	---	---	---	---
503: Cajete-----	---	---	Moderate	Moderate	Low
Cypher-----	Bedrock (lithic)	10-20	Moderate	Moderate	Moderate
504: Orejas-----	Bedrock (lithic)	10-20	Low	Moderate	Low
Guaje-----	---	---	Low	High	Low

Table 17.--Soil features--continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.		Uncoated steel	Concrete
600: Rock outcrop-----	Bedrock (lithic)	0-0	---	---	---
Cypher-----	Bedrock (lithic)	10-20	Moderate	Moderate	Moderate
601: Laventana-----	Bedrock (lithic)	40-60	Moderate	Low	High
603: Laventana-----	Bedrock (lithic)	40-60	Moderate	Low	High
Mirand-----	---	---	Low	Moderate	Low
604: Cypher-----	Bedrock (lithic)	10-20	Moderate	Moderate	Moderate
Mirand-----	---	---	Low	Moderate	Low
608: Osha, steep-----	---	---	Low	Low	Low
Osha-----	---	---	Low	Low	Low
823: Gilco, unprotected----	---	---	Low	High	Low
827: Aga, unprotected-----	---	---	Low	High	Low
830: Trail, unprotected----	---	---	Low	High	Low
831: Trail, unprotected----	---	---	Low	High	Moderate
835: Peralta, unprotected---	---	---	Low	High	Moderate
842: Peralta, moderately saline, sodic, unprotected-----	---	---	Low	High	High
850: Water-----	---	---	---	---	---
DAM: Dam-----	---	---	---	---	---

Table 18.--Water features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
1: Silver-----	C	Jan-Dec	---	---	---	---	None	---	None
Clovis-----	B	Jan-Dec	---	---	---	---	None	---	None
2: Clovis-----	B	Jan-Dec	---	---	---	---	None	---	None
Prieta-----	D	Jan-Dec	---	---	---	---	None	---	None
Silver-----	C	Jan-Dec	---	---	---	---	None	---	None
3: Montecito-----	B	Jan-Dec	---	---	---	---	None	---	None
Orejas-----	D	Jan-Dec	---	---	---	---	None	---	None
4: Montecito-----	B	Jan-Dec	---	---	---	---	None	---	None
Montecito, bouldery-----	B	Jan-Dec	---	---	---	---	None	---	None
10: Trail-----	A	March	---	---	---	---	None	---	Rare
		April	4.0-6.0	>6.0	---	---	None	---	Rare
		May	4.0-6.0	>6.0	---	---	None	---	Rare
		June	4.0-6.0	>6.0	---	---	None	---	Rare
		July	4.0-6.0	>6.0	---	---	None	---	Rare
		August	4.0-6.0	>6.0	---	---	None	---	Rare
		September	4.0-6.0	>6.0	---	---	None	---	None
		October	4.0-6.0	>6.0	---	---	None	---	None
11: Trail-----	A	March	---	---	---	---	None	Brief	Occasional
		April	4.0-6.0	>6.0	---	---	None	Brief	Occasional
		May	4.0-6.0	>6.0	---	---	None	Brief	Occasional
		June	4.0-6.0	>6.0	---	---	None	Brief	Occasional
		July	4.0-6.0	>6.0	---	---	None	Brief	Occasional
		August	4.0-6.0	>6.0	---	---	None	Brief	Occasional
		September	4.0-6.0	>6.0	---	---	None	---	None
		October	4.0-6.0	>6.0	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
13:									
Sandoval-----	D	Jan-Dec	---	---	---	---	None	---	None
Querencia-----	B	Jan-Dec	---	---	---	---	None	---	None
15:									
Camino-----	C	Jan-Dec	---	---	---	---	None	---	None
Sandoval-----	D	Jan-Dec	---	---	---	---	None	---	None
16:									
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
Prieta-----	D	Jan-Dec	---	---	---	---	None	---	None
17:									
Vessilla-----	D	Jan-Dec	---	---	---	---	None	---	None
Menefee-----	D	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
18:									
Sparham-----	D	July	---	---	---	---	None	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
		October	---	---	---	---	None	Brief	Occasional
20:									
Gilco-----	B	March	---	---	---	---	None	---	Rare
		April	4.0-6.0	>6.0	---	---	None	---	Rare
		May	4.0-6.0	>6.0	---	---	None	---	Rare
		June	4.0-6.0	>6.0	---	---	None	---	Rare
		July	4.0-6.0	>6.0	---	---	None	---	Rare
		August	4.0-6.0	>6.0	---	---	None	---	Rare
		September	4.0-6.0	>6.0	---	---	None	---	None
		October	4.0-6.0	>6.0	---	---	None	---	None
21:									
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
Hackroy-----	D	Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
22: Aga-----	B	March	---	---	---	---	None	---	Rare
		April	3.5-5.0	>6.0	---	---	None	---	Rare
		May	3.5-5.0	>6.0	---	---	None	---	Rare
		June	3.5-5.0	>6.0	---	---	None	---	Rare
		July	3.5-5.0	>6.0	---	---	None	---	Rare
		August	3.5-5.0	>6.0	---	---	None	---	Rare
		September	3.5-5.0	>6.0	---	---	None	---	None
		October	3.5-5.0	>6.0	---	---	None	---	None
23: Hickman-----	B	March	---	---	---	---	None	---	Rare
		April	---	---	---	---	None	---	Rare
		May	---	---	---	---	None	---	Rare
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		Jan-Dec	---	---	---	---	None	---	None
24: Orlie-----	C	Jan-Dec	---	---	---	---	None	---	None
Sparham-----	D	July	---	---	---	---	None	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
		October	---	---	---	---	None	Brief	Occasional
25: Gilco-----	B	March	---	---	---	---	None	---	Rare
		April	4.0-6.0	>6.0	---	---	None	---	Rare
		May	4.0-6.0	>6.0	---	---	None	---	Rare
		June	4.0-6.0	>6.0	---	---	None	---	Rare
		July	4.0-6.0	>6.0	---	---	None	---	Rare
		August	4.0-6.0	>6.0	---	---	None	---	Rare
		September	4.0-6.0	>6.0	---	---	None	---	None
		October	4.0-6.0	>6.0	---	---	None	---	None
26: Orlie-----	C	Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
27: Aga-----	B	March	---	---	---	---	None	---	Rare
		April	3.5-5.0	>6.0	---	---	None	---	Rare
		May	3.5-5.0	>6.0	---	---	None	---	Rare
		June	3.5-5.0	>6.0	---	---	None	---	Rare
		July	3.5-5.0	>6.0	---	---	None	---	Rare
		August	3.5-5.0	>6.0	---	---	None	---	Rare
		September	3.5-5.0	>6.0	---	---	None	---	None
		October	3.5-5.0	>6.0	---	---	None	---	None
29: Trail-----	A	March	---	---	---	---	None	---	Rare
		April	4.0-6.0	>6.0	---	---	None	---	Rare
		May	4.0-6.0	>6.0	---	---	None	---	Rare
		June	4.0-6.0	>6.0	---	---	None	---	Rare
		July	4.0-6.0	>6.0	---	---	None	---	Rare
		August	4.0-6.0	>6.0	---	---	None	---	Rare
		September	4.0-6.0	>6.0	---	---	None	---	None
		October	4.0-6.0	>6.0	---	---	None	---	None
31: Riverwash-----	D	March	---	---	---	---	None	Long	Frequent
		April	---	---	---	---	None	Long	Frequent
		May	---	---	---	---	None	Long	Frequent
		June	---	---	---	---	None	Long	Frequent
		July	---	---	---	---	None	Long	Frequent
		August	---	---	---	---	None	Long	Frequent
		September	---	---	---	---	None	Long	Frequent
33: Pits-----	---	Jan-Dec	---	---	---	---	None	---	None
34: Ildefonso-----	B	Jan-Dec	---	---	---	---	None	---	None
Witt-----	B	Jan-Dec	---	---	---	---	None	---	None
41: Dune Land-----	A	Jan-Dec	---	---	---	---	None	---	None
47: Cascajo-----	A	Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
51: Sparham-----	C	January	1.6-3.3	3.3-5.0	---	---	None	---	None
		February	1.6-3.3	3.3-5.0	---	---	None	---	None
		March	1.6-3.3	3.3-5.0	---	---	None	---	None
		June	2.5-3.3	3.3-5.0	---	---	None	---	None
		July	0.3-0.8	5.0-5.0	---	---	None	Brief	Occasional
		August	0.3-0.8	4.1-5.0	---	---	None	Brief	Occasional
		September	0.3-0.8	3.3-5.0	---	---	None	Brief	Occasional
		October	0.3-0.8	3.3-5.0	---	---	None	Brief	Occasional
		November	3.0-3.3	3.3-5.0	---	---	None	---	None
		December	3.0-3.3	3.3-5.0	---	---	None	---	None
52: Totavi-----	A	March	---	---	---	---	None	---	Rare
		April	---	---	---	---	None	---	Rare
		May	---	---	---	---	None	---	Rare
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		Jan-Dec	---	---	---	---	None	---	None
53: Witt-----	B	Jan-Dec	---	---	---	---	None	---	None
Harvey-----	B	Jan-Dec	---	---	---	---	None	---	None
54: Harvey-----	B	Jan-Dec	---	---	---	---	None	---	None
Cascajo-----	A	Jan-Dec	---	---	---	---	None	---	None
55: La Fonda-----	B	Jan-Dec	---	---	---	---	None	---	None
56: Ildefonso-----	B	Jan-Dec	---	---	---	---	None	---	None
57: Badland-----	D	Jan-Dec	---	---	---	---	None	---	None
58: Deama-----	D	Jan-Dec	---	---	---	---	None	---	None
Elpedro-----	B	Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
59:									
Harvey-----	B	Jan-Dec	---	---	---	---	None	---	None
Ildefonso-----	B	Jan-Dec	---	---	---	---	None	---	None
La Fonda-----	B	Jan-Dec	---	---	---	---	None	---	None
63:									
Placitas-----	C	Jan-Dec	---	---	---	---	None	---	None
64:									
Skyvillage-----	D	Jan-Dec	---	---	---	---	None	---	None
Ildefonso-----	B	Jan-Dec	---	---	---	---	None	---	None
65:									
Ildefonso-----	B	Jan-Dec	---	---	---	---	None	---	None
Harvey-----	B	Jan-Dec	---	---	---	---	None	---	None
66:									
Zia-----	B	Jan-Dec	---	---	---	---	None	---	None
67:									
Sandoval-----	D	Jan-Dec	---	---	---	---	None	---	None
Poley-----	D	Jan-Dec	---	---	---	---	None	---	None
68:									
Penistaja-----	B	Jan-Dec	---	---	---	---	None	---	None
Querencia-----	B	Jan-Dec	---	---	---	---	None	---	None
71:									
Palon-----	B	Jan-Dec	---	---	---	---	None	---	None
72:									
Palon-----	B	Jan-Dec	---	---	---	---	None	---	None
74:									
Origo-----	B	Jan-Dec	---	---	---	---	None	---	None
Pavo-----	B	Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
75: Origo-----	B	Jan-Dec	---	---	---	---	None	---	None
82: Calaveras-----	B	Jan-Dec	---	---	---	---	None	---	None
83: Calaveras-----	B	Jan-Dec	---	---	---	---	None	---	None
Rubble Land-----	A	Jan-Dec	---	---	---	---	None	---	None
85: Redondo-----	B	Jan-Dec	---	---	---	---	None	---	None
86: Redondo-----	B	Jan-Dec	---	---	---	---	None	---	None
87: Redondo-----	B	Jan-Dec	---	---	---	---	None	---	None
Rubble Land-----	A	Jan-Dec	---	---	---	---	None	---	None
88: Totavi-----	A	March	---	---	---	---	None	---	Rare
		April	---	---	---	---	None	---	Rare
		May	---	---	---	---	None	---	Rare
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		Jan-Dec	---	---	---	---	None	---	None
Jemez-----	C	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
91: Zia-----	B	Jan-Dec	---	---	---	---	None	---	None
92: Galisteo, moderately saline, sodic-----	D	Jan-Dec	---	---	---	---	None	---	None
93: Zia-----	B	Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
95: El Rancho-----	B	Jan-Dec	---	---	---	---	None	---	None
97: El Rancho-----	B	Jan-Dec	---	---	---	---	None	---	None
100: Orejas-----	D	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
101: Blancot-----	B	Jan-Dec	---	---	---	---	None	---	None
Lybrook-----	D	Jan-Dec	---	---	---	---	None	---	None
102: Sparham-----	D	July	---	---	---	---	None	Brief	Occasional
		August	---	---	---	---	None	Brief	Occasional
		September	---	---	---	---	None	Brief	Occasional
		October	---	---	---	---	None	Brief	Occasional
104: Cochiti-----	C	Jan-Dec	---	---	---	---	None	---	None
Montecito-----	B	Jan-Dec	---	---	---	---	None	---	None
105: Badland-----	D	Jan-Dec	---	---	---	---	None	---	None
Menefee-----	D	Jan-Dec	---	---	---	---	None	---	None
106: Stumble-----	A	Jan-Dec	---	---	---	---	None	---	None
Stumble, sandy-----	A	March	---	---	---	---	None	---	Rare
		April	---	---	---	---	None	---	Rare
		May	---	---	---	---	None	---	Rare
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		Jan-Dec	---	---	---	---	None	---	None
108: Embudo-----	B	Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
109: Embudo-----	B	Jan-Dec	---	---	---	---	None	---	None
Tijeras-----	B	Jan-Dec	---	---	---	---	None	---	None
110: Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
Saido-----	B	Jan-Dec	---	---	---	---	None	---	None
111: Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
Zia-----	B	Jan-Dec	---	---	---	---	None	---	None
112: Tijeras-----	B	Jan-Dec	---	---	---	---	None	---	None
114: San Mateo-----	B	March	---	---	---	---	None	---	Rare
		April	---	---	---	---	None	---	Rare
		May	---	---	---	---	None	---	Rare
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		Jan-Dec	---	---	---	---	None	---	None
Zia-----	B	Jan-Dec	---	---	---	---	None	---	None
120: Pinavetes-----	A	Jan-Dec	---	---	---	---	None	---	None
124: Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
129: Menefee-----	D	Jan-Dec	---	---	---	---	None	---	None
130: Pinavetes-----	A	Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
130: Galisteo, moderately saline, sodic-----	D	March	---	---	---	---	None	---	Rare
		April	---	---	---	---	None	---	Rare
		May	---	---	---	---	None	---	Rare
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		Jan-Dec	---	---	---	---	None	---	None
142: Grieta-----	B	Jan-Dec	---	---	---	---	None	---	None
143: Clovis-----	B	Jan-Dec	---	---	---	---	None	---	None
145: Grieta-----	B	Jan-Dec	---	---	---	---	None	---	None
Sheppard-----	A	Jan-Dec	---	---	---	---	None	---	None
146: Sedmar-----	D	Jan-Dec	---	---	---	---	None	---	None
150: Doakum-----	B	Jan-Dec	---	---	---	---	None	---	None
Betonnies-----	B	Jan-Dec	---	---	---	---	None	---	None
162: Hackroy-----	D	Jan-Dec	---	---	---	---	None	---	None
Nyjack-----	C	Jan-Dec	---	---	---	---	None	---	None
163: Jemez-----	C	Jan-Dec	---	---	---	---	None	---	None
170: San Mateo-----	B	March	---	---	---	---	None	---	Rare
		April	---	---	---	---	None	---	Rare
		May	---	---	---	---	None	---	Rare
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
180: Councelor-----	B	Jan-Dec	---	---	---	---	None	---	None
Eslando-----	D	Jan-Dec	---	---	---	---	None	---	None
Mespun-----	A	Jan-Dec	---	---	---	---	None	---	None
183: Sheppard-----	A	Jan-Dec	---	---	---	---	None	---	None
185: Frijoles-----	C	Jan-Dec	---	---	---	---	None	---	None
190: Zia-----	B	Jan-Dec	---	---	---	---	None	---	None
Skyvillage-----	D	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
191: Sheppard-----	A	Jan-Dec	---	---	---	---	None	---	None
200: Sedillo-----	B	Jan-Dec	---	---	---	---	None	---	None
201: Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
Sedgran-----	D	Jan-Dec	---	---	---	---	None	---	None
206: Pinitos-----	B	Jan-Dec	---	---	---	---	None	---	None
207: Penistaja-----	B	Jan-Dec	---	---	---	---	None	---	None
Zia-----	B	Jan-Dec	---	---	---	---	None	---	None
208: Sedillo-----	B	Jan-Dec	---	---	---	---	None	---	None
210: Ildefonso-----	B	Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
211: Zia-----	B	Jan-Dec	---	---	---	---	None	---	None
Clovis-----	B	Jan-Dec	---	---	---	---	None	---	None
213: Pinavetes-----	A	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
215: Ess-----	B	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
217: Witt-----	B	Jan-Dec	---	---	---	---	None	---	None
218: Ildefonso-----	B	Jan-Dec	---	---	---	---	None	---	None
220: Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
Vessilla-----	D	Jan-Dec	---	---	---	---	None	---	None
Menefee-----	D	Jan-Dec	---	---	---	---	None	---	None
226: Galisteo, moderately saline, sodic-----	D	Jan-Dec	---	---	---	---	None	---	None
227: Hagerman-----	C	Jan-Dec	---	---	---	---	None	---	None
Bond-----	D	Jan-Dec	---	---	---	---	None	---	None
228: Winona-----	D	Jan-Dec	---	---	---	---	None	---	None
230: Skyvillage-----	D	Jan-Dec	---	---	---	---	None	---	None
Sandoval-----	D	Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
230: Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
231: Querencia-----	B	Jan-Dec	---	---	---	---	None	---	None
234: Querencia-----	B	Jan-Dec	---	---	---	---	None	---	None
Zia-----	B	Jan-Dec	---	---	---	---	None	---	None
235: Sandoval-----	D	Jan-Dec	---	---	---	---	None	---	None
236: Sparank, moderately saline, sodic-----	D	July August September October	---	---	---	---	None None None None	Brief Brief Brief Brief	Occasional Occasional Occasional Occasional
237: Sparank-----	D	July August September October	---	---	---	---	None None None None	Brief Brief Brief Brief	Occasional Occasional Occasional Occasional
240: Penistaja-----	B	Jan-Dec	---	---	---	---	None	---	None
Hagerman-----	C	Jan-Dec	---	---	---	---	None	---	None
250: Pinavetes-----	A	Jan-Dec	---	---	---	---	None	---	None
262: Pastura-----	D	Jan-Dec	---	---	---	---	None	---	None
270: Blancot-----	B	Jan-Dec	---	---	---	---	None	---	None
Councilor-----	B	Jan-Dec	---	---	---	---	None	---	None
Tsowie-----	B	Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
281: Carjo-----	C	Jan-Dec	---	---	---	---	None	---	None
282: Tocal-----	C	Jan-Dec	---	---	---	---	None	---	None
283: Mirand-----	D	Jan-Dec	---	---	---	---	None	---	None
Alanos-----	C	Jan-Dec	---	---	---	---	None	---	None
290: Alanos-----	B	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
300: Waumac-----	B	Jan-Dec	---	---	---	---	None	---	None
Bamac-----	A	Jan-Dec	---	---	---	---	None	---	None
301: Vastine-----	B	March	1.0-3.0	>6.0	---	---	None	---	Rare
		April	1.0-3.0	>6.0	---	---	None	---	Rare
		May	1.0-3.0	>6.0	---	---	None	---	Rare
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
Jarola-----	C	March	1.0-3.0	>6.0	---	---	None	---	Rare
		April	1.0-3.0	>6.0	---	---	None	---	Rare
		May	1.0-3.0	>6.0	---	---	None	---	Rare
		June	1.0-3.0	>6.0	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
302: Tranquilar-----	C	March	1.5-4.0	>6.0	---	---	None	---	None
		April	1.5-4.0	>6.0	---	---	None	---	None
		May	1.5-4.0	>6.0	---	---	None	---	None
		June	1.5-4.0	>6.0	---	---	None	---	None
		July	1.5-4.0	>6.0	---	---	None	---	None
Jarmillo-----	B	Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
304: Cosey-----	B	Jan-Dec	---	---	---	---	None	---	None
Jarmillo-----	B	Jan-Dec	---	---	---	---	None	---	None
307: Flugle-----	B	Jan-Dec	---	---	---	---	None	---	None
Waumac-----	B	Jan-Dec	---	---	---	---	None	---	None
308: Cajete-----	B	Jan-Dec	---	---	---	---	None	---	None
311: Cosey-----	B	Jan-Dec	---	---	---	---	None	---	None
Tranquilar-----	C	March	1.5-4.0	>6.0	---	---	None	---	None
		April	1.5-4.0	>6.0	---	---	None	---	None
		May	1.5-4.0	>6.0	---	---	None	---	None
		June	1.5-4.0	>6.0	---	---	None	---	None
		July	1.5-4.0	>6.0	---	---	None	---	None
Calaveras-----	B	Jan-Dec	---	---	---	---	None	---	None
312: Royosa-----	A	Jan-Dec	---	---	---	---	None	---	None
314: Fragua-----	B	Jan-Dec	---	---	---	---	None	---	None
Waumac-----	B	Jan-Dec	---	---	---	---	None	---	None
Royosa-----	A	Jan-Dec	---	---	---	---	None	---	None
317: Elpedro-----	B	Jan-Dec	---	---	---	---	None	---	None
319: Bamac-----	A	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
320: Sparham-----	D	July August September October	--- --- --- ---	--- --- --- ---	--- --- --- ---	--- --- --- ---	None None None None	Brief Brief Brief Brief	Occasional Occasional Occasional Occasional
321: Waumac-----	B	Jan-Dec	---	---	---	---	None	---	None
Royosa-----	A	Jan-Dec	---	---	---	---	None	---	None
322: Fragua-----	B	Jan-Dec	---	---	---	---	None	---	None
324: Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
Atarque-----	D	Jan-Dec	---	---	---	---	None	---	None
Menefee-----	D	Jan-Dec	---	---	---	---	None	---	None
325: Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
Espiritu-----	B	Jan-Dec	---	---	---	---	None	---	None
Vessilla-----	D	Jan-Dec	---	---	---	---	None	---	None
342: Waumac-----	B	Jan-Dec	---	---	---	---	None	---	None
Vessilla-----	D	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
345: Espiritu-----	B	Jan-Dec	---	---	---	---	None	---	None
Bamac-----	A	Jan-Dec	---	---	---	---	None	---	None
346: Espiritu, cobbly-----	B	Jan-Dec	---	---	---	---	None	---	None
Bamac-----	A	Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
348: Wauquie-----	B	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
353: Cochiti-----	C	Jan-Dec	---	---	---	---	None	---	None
Espiritu-----	B	Jan-Dec	---	---	---	---	None	---	None
354: Waumac, variant-----	D	Jan-Dec	---	---	---	---	None	---	None
358: Deama-----	D	Jan-Dec	---	---	---	---	None	---	None
Elpedro-----	B	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
396: Atarque-----	D	Jan-Dec	---	---	---	---	None	---	None
Menefee-----	D	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
397: Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
Cucho-----	C	Jan-Dec	---	---	---	---	None	---	None
Vessilla-----	D	Jan-Dec	---	---	---	---	None	---	None
398: Espiritu-----	B	Jan-Dec	---	---	---	---	None	---	None
Cucho-----	C	Jan-Dec	---	---	---	---	None	---	None
399: Cucho-----	C	Jan-Dec	---	---	---	---	None	---	None
Teco-----	C	Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
405: Charo-----	C	Jan-Dec	---	---	---	---	None	---	None
Charo, noncobbly-----	C	Jan-Dec	---	---	---	---	None	---	None
409: Santa Fe-----	D	Jan-Dec	---	---	---	---	None	---	None
410: Zia-----	B	Jan-Dec	---	---	---	---	None	---	None
414: Wauquie-----	B	Jan-Dec	---	---	---	---	None	---	None
417: Jocity-----	B	March	---	---	---	---	None	---	Rare
		April	4.0-6.0	>6.0	---	---	None	---	Rare
		May	4.0-6.0	>6.0	---	---	None	---	Rare
		June	4.0-6.0	>6.0	---	---	None	---	Rare
		July	4.0-6.0	>6.0	---	---	None	---	Rare
		August	4.0-6.0	>6.0	---	---	None	---	Rare
		September	4.0-6.0	>6.0	---	---	None	---	None
		October	4.0-6.0	>6.0	---	---	None	---	None
418: Jocity-----	B	March	---	---	---	---	None	---	Rare
		April	4.0-6.0	>6.0	---	---	None	---	Rare
		May	4.0-6.0	>6.0	---	---	None	---	Rare
		June	4.0-6.0	>6.0	---	---	None	---	Rare
		July	4.0-6.0	>6.0	---	---	None	---	Rare
		August	4.0-6.0	>6.0	---	---	None	---	Rare
		September	4.0-6.0	>6.0	---	---	None	---	None
		October	4.0-6.0	>6.0	---	---	None	---	None
419: Santa Fe-----	D	Jan-Dec	---	---	---	---	None	---	None
Wauquie-----	B	Jan-Dec	---	---	---	---	None	---	None
Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
420: Pinavetes-----	A	Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
421: Gilco, moderately saline, sodic-----	B	March	---	---	---	---	None	---	Rare
		April	4.0-6.0	>6.0	---	---	None	---	Rare
		May	4.0-6.0	>6.0	---	---	None	---	Rare
		June	4.0-6.0	>6.0	---	---	None	---	Rare
		July	4.0-6.0	>6.0	---	---	None	---	Rare
		August	4.0-6.0	>6.0	---	---	None	---	Rare
		September	4.0-6.0	>6.0	---	---	None	---	None
		October	4.0-6.0	>6.0	---	---	None	---	None
422: Vessilla-----	D	Jan-Dec	---	---	---	---	None	---	None
Menefee-----	D	Jan-Dec	---	---	---	---	None	---	None
Orlie-----	C	Jan-Dec	---	---	---	---	None	---	None
423: Gilco-----	B	March	---	---	---	---	None	---	Rare
		April	4.0-6.0	>6.0	---	---	None	---	Rare
		May	4.0-6.0	>6.0	---	---	None	---	Rare
		June	4.0-6.0	>6.0	---	---	None	---	Rare
		July	4.0-6.0	>6.0	---	---	None	---	Rare
		August	4.0-6.0	>6.0	---	---	None	---	Rare
		September	4.0-6.0	>6.0	---	---	None	---	None
		October	4.0-6.0	>6.0	---	---	None	---	None
426: Aga, moderately saline, sodic-----	B	March	---	---	---	---	None	---	Rare
		April	4.0-6.0	>6.0	---	---	None	---	Rare
		May	4.0-6.0	>6.0	---	---	None	---	Rare
		June	4.0-6.0	>6.0	---	---	None	---	Rare
		July	4.0-6.0	>6.0	---	---	None	---	Rare
		August	4.0-6.0	>6.0	---	---	None	---	Rare
		September	4.0-6.0	>6.0	---	---	None	---	None
		October	4.0-6.0	>6.0	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
427: Aga-----	B	March	---	---	---	---	None	---	Rare
		April	3.5-5.0	>6.0	---	---	None	---	Rare
		May	3.5-5.0	>6.0	---	---	None	---	Rare
		June	3.5-5.0	>6.0	---	---	None	---	Rare
		July	3.5-5.0	>6.0	---	---	None	---	Rare
		August	3.5-5.0	>6.0	---	---	None	---	Rare
		September	3.5-5.0	>6.0	---	---	None	---	None
		October	3.5-5.0	>6.0	---	---	None	---	None
428: Aga, moderately saline, sodic-----	B	March	---	---	---	---	None	---	Rare
		April	4.0-6.0	>6.0	---	---	None	---	Rare
		May	4.0-6.0	>6.0	---	---	None	---	Rare
		June	4.0-6.0	>6.0	---	---	None	---	Rare
		July	4.0-6.0	>6.0	---	---	None	---	Rare
		August	4.0-6.0	>6.0	---	---	None	---	Rare
		September	4.0-6.0	>6.0	---	---	None	---	None
		October	4.0-6.0	>6.0	---	---	None	---	None
430: Trail-----	A	March	---	---	---	---	None	---	Rare
		April	---	---	---	---	None	---	Rare
		May	---	---	---	---	None	---	Rare
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		Jan-Dec	---	---	---	---	None	---	None
431: Trail-----	A	March	---	---	---	---	None	---	Rare
		April	---	---	---	---	None	---	Rare
		May	---	---	---	---	None	---	Rare
		June	---	---	---	---	None	---	Rare
		July	---	---	---	---	None	---	Rare
		August	---	---	---	---	None	---	Rare
		Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
433: Peralta-----	C	March	2.0-3.0	>6.0	---	---	None	---	Rare
		April	2.0-3.0	>6.0	---	---	None	---	Rare
		May	2.0-3.0	>6.0	---	---	None	---	Rare
		June	2.0-3.0	>6.0	---	---	None	---	Rare
		July	2.0-3.0	>6.0	---	---	None	---	Rare
		August	2.0-3.0	>6.0	---	---	None	---	Rare
		September	2.0-3.0	>6.0	---	---	None	---	None
		October	2.0-3.0	>6.0	---	---	None	---	None
434: Peralta-----	C	March	2.0-3.0	>6.0	---	---	None	---	Rare
		April	2.0-3.0	>6.0	---	---	None	---	Rare
		May	2.0-3.0	>6.0	---	---	None	---	Rare
		June	2.0-3.0	>6.0	---	---	None	---	Rare
		July	2.0-3.0	>6.0	---	---	None	---	Rare
		August	2.0-3.0	>6.0	---	---	None	---	Rare
		September	2.0-3.0	>6.0	---	---	None	---	None
		October	2.0-3.0	>6.0	---	---	None	---	None
437: Peralta, moderately saline, sodic-----	C	March	2.0-3.0	>6.0	---	---	None	---	Rare
		April	2.0-3.0	>6.0	---	---	None	---	Rare
		May	2.0-3.0	>6.0	---	---	None	---	Rare
		June	2.0-3.0	>6.0	---	---	None	---	Rare
		July	2.0-3.0	>6.0	---	---	None	---	Rare
		August	2.0-3.0	>6.0	---	---	None	---	Rare
		September	2.0-3.0	>6.0	---	---	None	---	None
		October	2.0-3.0	>6.0	---	---	None	---	None
500: Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
Osha-----	B	Jan-Dec	---	---	---	---	None	---	None
Rubble Land-----	A	Jan-Dec	---	---	---	---	None	---	None
503: Cajete-----	B	Jan-Dec	---	---	---	---	None	---	None
Cypher-----	D	Jan-Dec	---	---	---	---	None	---	None
504: Orejas-----	D	Jan-Dec	---	---	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
504: Guaje-----	D	Jan-Dec	---	---	---	---	None	---	None
600: Rock outcrop-----	D	Jan-Dec	---	---	---	---	None	---	None
Cypher-----	D	Jan-Dec	---	---	---	---	None	---	None
601: Laventana-----	B	Jan-Dec	---	---	---	---	None	---	None
603: Laventana-----	B	Jan-Dec	---	---	---	---	None	---	None
Mirand-----	D	Jan-Dec	---	---	---	---	None	---	None
604: Cypher-----	D	Jan-Dec	---	---	---	---	None	---	None
Mirand-----	D	Jan-Dec	---	---	---	---	None	---	None
608: Osha, steep-----	B	Jan-Dec	---	---	---	---	None	---	None
Osha-----	B	Jan-Dec	---	---	---	---	None	---	None
823: Gilco, unprotected-----	B	March	---	---	---	---	None	---	Rare
		April	4.0-6.0	>6.0	---	---	None	---	Rare
		May	4.0-6.0	>6.0	---	---	None	---	Rare
		June	4.0-6.0	>6.0	---	---	None	---	Rare
		July	4.0-6.0	>6.0	---	---	None	---	Rare
		August	4.0-6.0	>6.0	---	---	None	---	Rare
		September	4.0-6.0	>6.0	---	---	None	---	None
		October	4.0-6.0	>6.0	---	---	None	---	None
827: Aga, unprotected-----	B	March	---	---	---	---	None	---	Rare
		April	3.5-5.0	>6.0	---	---	None	---	Rare
		May	3.5-5.0	>6.0	---	---	None	---	Rare
		June	3.5-5.0	>6.0	---	---	None	---	Rare
		July	3.5-5.0	>6.0	---	---	None	---	Rare
		August	3.5-5.0	>6.0	---	---	None	---	Rare
		September	3.5-5.0	>6.0	---	---	None	---	None
		October	3.5-5.0	>6.0	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
830: Trail, unprotected-----	A	March	---	---	---	---	None	---	Rare
		April	4.0-6.0	>6.0	---	---	None	---	Rare
		May	4.0-6.0	>6.0	---	---	None	---	Rare
		June	4.0-6.0	>6.0	---	---	None	---	Rare
		July	4.0-6.0	>6.0	---	---	None	---	Rare
		August	4.0-6.0	>6.0	---	---	None	---	Rare
		September	4.0-6.0	>6.0	---	---	None	---	None
		October	4.0-6.0	>6.0	---	---	None	---	None
831: Trail, unprotected-----	A	March	---	---	---	---	None	---	Rare
		April	4.0-6.0	>6.0	---	---	None	---	Rare
		May	4.0-6.0	>6.0	---	---	None	---	Rare
		June	4.0-6.0	>6.0	---	---	None	---	Rare
		July	4.0-6.0	>6.0	---	---	None	---	Rare
		August	4.0-6.0	>6.0	---	---	None	---	Rare
		September	4.0-6.0	>6.0	---	---	None	---	None
		October	4.0-6.0	>6.0	---	---	None	---	None
835: Peralta, unprotected-----	C	March	2.0-3.0	>6.0	---	---	None	---	None
		April	2.0-3.0	>6.0	---	---	None	Long	Occasional
		May	2.0-3.0	>6.0	---	---	None	Long	Occasional
		June	2.0-3.0	>6.0	---	---	None	Long	Occasional
		July	2.0-3.0	>6.0	---	---	None	---	None
		August	2.0-3.0	>6.0	---	---	None	---	None
		September	2.0-3.0	>6.0	---	---	None	---	None
		October	2.0-3.0	>6.0	---	---	None	---	None
842: Peralta, moderately saline, sodic, unprotected-----	C	March	2.0-3.0	>6.0	---	---	None	---	Rare
		April	2.0-3.0	>6.0	---	---	None	---	Rare
		May	2.0-3.0	>6.0	---	---	None	---	Rare
		June	2.0-3.0	>6.0	---	---	None	---	Rare
		July	2.0-3.0	>6.0	---	---	None	---	Rare
		August	2.0-3.0	>6.0	---	---	None	---	Rare
		September	2.0-3.0	>6.0	---	---	None	---	None
		October	2.0-3.0	>6.0	---	---	None	---	None

Table 18.--Water features--continued

Map symbol and soil name	Hydro- logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			<u>Ft.</u>	<u>Ft.</u>	<u>Ft.</u>				
850: Water-----	---	Jan-Dec	---	---	---	---	None	---	None
DAM: Dam-----	---	Jan-Dec	---	---	---	---	None	---	None

Table 19.--Taxonomic classification of the soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series.)

Soil name	Family or higher taxonomic class
Aga-----	Coarse-loamy over sandy or sandy-skeletal, mixed, calcareous, mesic Typic Torrifluvents
Alanos-----	Clayey-skeletal, mixed Typic Eutroboralfs
Atarque-----	Loamy, mixed, mesic Lithic Haplustalfs
Bamac-----	Sandy-skeletal, mixed, mesic Typic Ustorthents
Betonnies-----	Coarse-loamy, mixed, mesic Ustalfic Haplargids
Blancot-----	Fine-loamy, mixed, mesic Ustalfic Haplargids
Bond-----	Loamy, mixed, mesic Lithic Ustollic Haplargids
Cajete-----	Ashy-skeletal, frigid Mollic Vitrandepts
Calaveras-----	Loamy-skeletal, mixed, frigid Dystric Eutrochrepts
Camino-----	Fine, mixed, mesic Ustollic Camborthids
Carjo-----	Fine, mixed Mollic Eutroboralfs
Cascajo-----	Sandy-skeletal, mixed, mesic Ustollic Calciorthids
Charo-----	Fine, mixed Typic Argiborolls
Clovis-----	Fine-loamy, mixed, mesic Ustollic Haplargids
Cochiti-----	Clayey-skeletal, mixed, mesic Aridic Haplustalfs
Cosey-----	Loamy-skeletal, mixed Typic Paleborolls
Councilor-----	Coarse-loamy, mixed, calcareous, mesic Ustic Torriorthents
Cucho-----	Fine-silty, mixed, calcareous, mesic Typic Ustorthents
Cypher-----	Loamy-skeletal, mixed, frigid Lithic Ustochrepts
Deama-----	Loamy-skeletal, carbonatic, mesic Lithic Calciustolls
Doakum-----	Fine-loamy, mixed, mesic Ustalfic Haplargids
El Rancho-----	Fine-loamy, mixed, calcareous, mesic Ustic Torriorthents
Elpedro-----	Fine-silty, mixed, mesic Aridic Haplustalfs
Embudo-----	Coarse-loamy, mixed, mesic Typic Camborthids
Eslendo-----	Loamy, mixed, calcareous, mesic, shallow Ustic Torriorthents
Espiritu-----	Loamy-skeletal, mixed, mesic Aridic Haplustalfs
Ess-----	Loamy-skeletal, mixed Argic Cryoborolls
Flugle-----	Fine-loamy, mixed, mesic Aridic Haplustalfs
Fragua-----	Coarse-loamy, mixed, mesic Aridic Haplustalfs
Frijoles-----	Loamy-skeletal over fragmental, mixed, mesic Aridic Haplustalfs
Galisteo-----	Fine, mixed, calcareous, mesic Ustic Torriorthents
Gilco-----	Coarse-loamy, mixed, calcareous, mesic Typic Torrifluvents
*Gilco-----	Coarse-loamy, mixed, calcareous, mesic Typic Torrifluvents
Grieta-----	Fine-loamy, mixed, mesic Typic Haplargids
Guaje-----	Medial-skeletal, mesic Aridic Ustochrepts
Hackroy-----	Clayey, mixed, mesic Lithic Haplustalfs
Hagerman-----	Fine-loamy, mixed, mesic Ustollic Haplargids
Harvey-----	Fine-loamy, mixed, mesic Ustollic Calciorthids
Hickman-----	Fine-loamy, mixed, calcareous, mesic Typic Ustifluvents
Ildefonso-----	Loamy-skeletal, mixed, mesic Ustollic Calciorthids
Jarmillo-----	Coarse-loamy, mixed Pachic Haploborolls
Jarola-----	Fine-loamy, mixed, frigid Typic Argialbolls
Jemez-----	Fine-loamy, mixed Mollic Eutroboralfs
Jocity-----	Fine-loamy, mixed, calcareous, mesic Typic Torrifluvents
La Fonda-----	Fine-loamy, mixed, mesic Ustollic Camborthids
Laventana-----	Loamy-skeletal, mixed Mollic Eutroboralfs
Lybrook-----	Fine, mixed, calcareous, mesic Ustic Torriorthents
Menefee-----	Loamy, mixed, calcareous, mesic, shallow Typic Ustorthents
Mespuen-----	Mixed, mesic Ustic Torripsamments
Mirand-----	Fine, mixed Mollic Eutroboralfs
Montecito-----	Fine, mixed, mesic Aridic Haplustalfs
Nyjack-----	Fine-loamy, mixed, mesic Aridic Haplustalfs
Orejas-----	Clayey-skeletal, mixed, mesic Lithic Haplustalfs
Origo-----	loamy-skeletal, mixed Psammentic Cryoboralfs
Orlie-----	Fine-loamy, mixed, mesic Aridic Haplustalfs
Osha-----	Loamy-skeletal, mixed Typic Haploborolls
Palon-----	loamy-skeletal, mixed Psammentic Eutroboralfs
Pastura-----	Loamy, mixed, mesic, shallow Ustollic Paleorthids
Pavo-----	Fine-loamy, mixed Cryic Paleborolls
Penistaja-----	Fine-loamy, mixed, mesic Ustollic Haplargids

Table 19.--Taxonomic classification of the soils--continued

Soil name	Family or higher taxonomic class
Peralta-----	Coarse-loamy, mixed, calcareous, mesic Typic Ustifluvents
Pinavetes-----	Mixed, mesic Ustic Torripsamments
Pinitos-----	Fine-loamy, mixed, mesic Aridic Haplustalfs
Placitas-----	Loamy-skeletal, mixed, mesic Ustollic Calciorthids
Poley-----	Fine, mixed, mesic Ustollic Haplargids
Prieta-----	Clayey-skeletal, mixed, mesic Lithic Ustollic Haplargids
Querencia-----	Fine-loamy, mixed, mesic Ustollic Camborthids
Redondo-----	Loamy-skeletal, mixed Typic Cryoboralfs
Royosa-----	Mixed, mesic Typic Ustipsamments
Saido-----	Coarse-silty, gypsic, mesic Typic Gypsiorthids
San Mateo-----	Fine-loamy, mixed, calcareous, mesic Ustic Torrifluvents
Sandoval-----	Loamy, mixed, calcareous, mesic, shallow Ustic Torriorthents
Santa Fe-----	Loamy-skeletal, mixed, mesic Lithic Argiustolls
Sedgran-----	Sandy-skeletal, mixed, mesic Lithic Ustic Torriorthents
Sedillo-----	Loamy-skeletal, mixed, mesic Ustollic Haplargids
Sedmar-----	Sandy, mixed, frigid Lithic Ustorthents
Sheppard-----	Mixed, mesic Typic Torripsamments
Silver-----	Fine, mixed, mesic Ustollic Haplargids
Skyvillage-----	Loamy, mixed, calcareous, mesic Lithic Ustic Torriorthents
Sparank-----	Fine, mixed, calcareous, mesic Ustic Torrifluvents
Sparham-----	Fine, mixed, calcareous, mesic Typic Ustifluvents
*Sparham-----	Fine, mixed, calcareous, mesic Typic Ustifluvents
Stumble-----	Mixed, mesic Typic Torripsamments
Teco-----	Fine, mixed, mesic Aridic Haplustalfs
Tijeras-----	Fine-loamy, mixed, mesic Typic Haplargids
Tocal-----	Clayey, mixed Lithic Eutroboralfs
Totavi-----	Ashy, frigid Mollic Vitrandepts
Trail-----	Sandy, mixed, mesic Typic Torrifluvents
Tranquilar-----	Very-fine, montmorillonitic, frigid Typic Argialbolls
Tsosie-----	Fine-loamy, mixed, calcareous, mesic Ustic Torriorthents
Vastine-----	Fine-loamy over sandy or sandy-skeletal, mixed, frigid Typic
Haplaquolls	
Vessilla-----	Loamy, mixed, calcareous, mesic Lithic Ustorthents
Waumac-----	Coarse-loamy, mixed, calcareous, mesic Typic Ustorthents
Waumac Variant-----	Ashy-skeletal, mesic, shallow Typic Ustorthents
Wauquie-----	Loamy-skeletal, mixed, mesic Aridic Haplustalfs
Winona-----	Loamy-skeletal, carbonatic, mesic Lithic Ustollic Calciorthids
Witt-----	Fine-silty, mixed, mesic Ustollic Haplargids
Zia-----	Coarse-loamy, mixed, calcareous, mesic Ustic Torriorthents

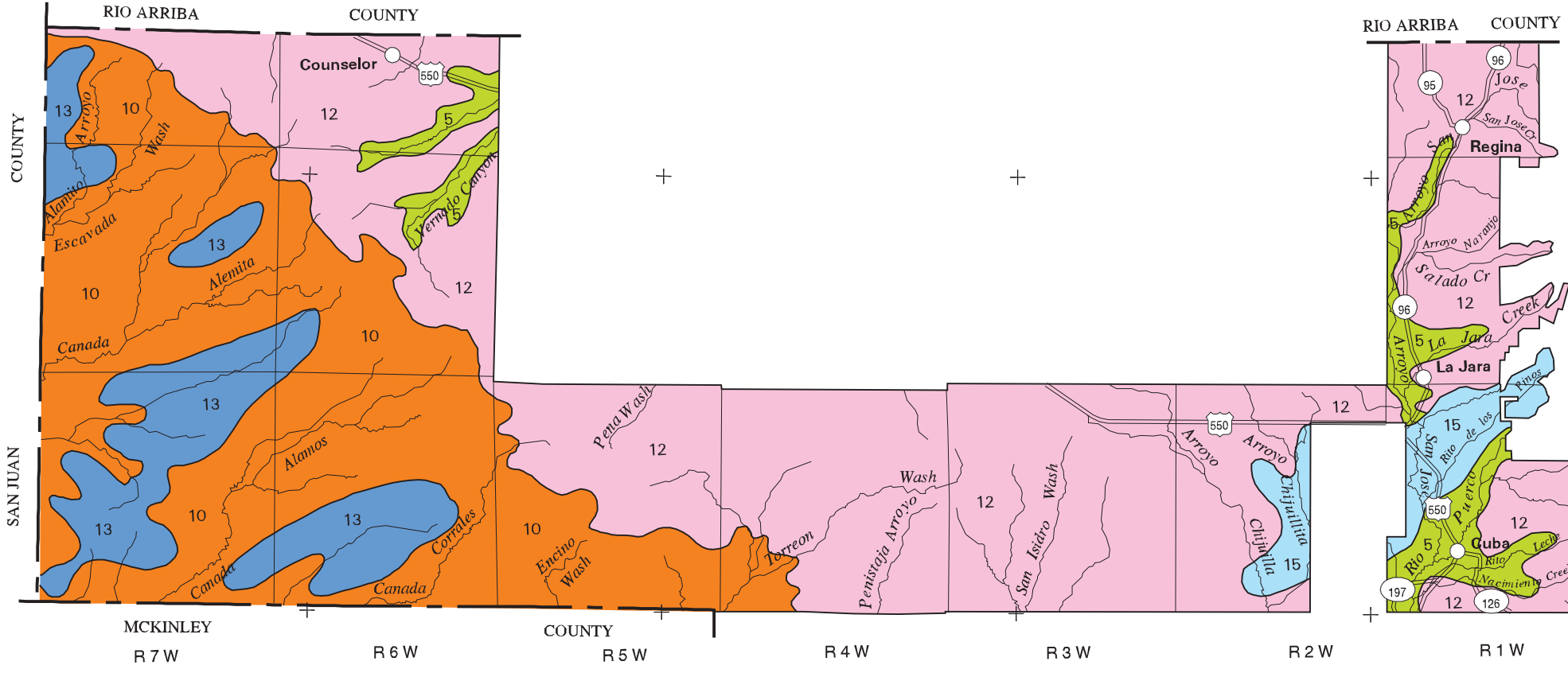
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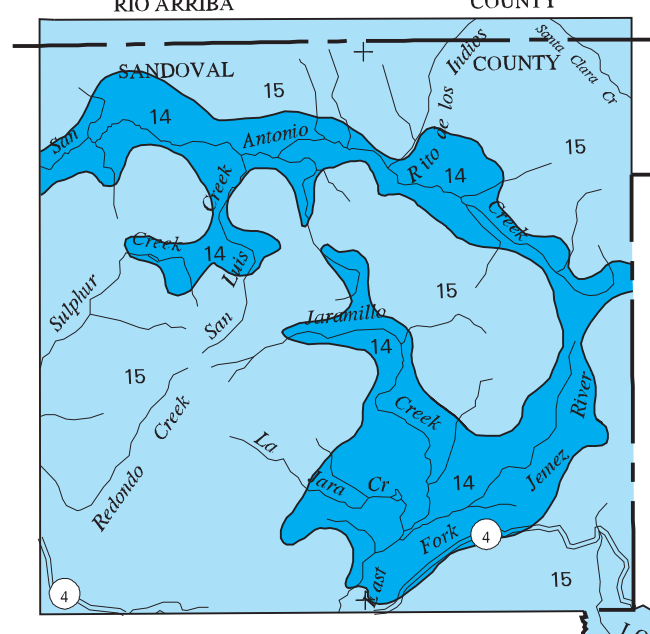
106°20'00"

107°30'00"

36°10'00"



RIO ARRIBA COUNTY
T 23 N
T 22 N
T 21 N
R 1 W
R 2 W
R 3 W
R 4 W
R 5 W
R 6 W
R 7 W
MCKINLEY COUNTY
SAN JUAN COUNTY



RIO ARRIBA COUNTY
T 20 N
LOS ALAMOS COUNTY
T 19 N
T 18 N
T 17 N
T 16 N
T 15 N
T 14 N
T 13 N
T 12 N
SANTA FE COUNTY
BERNALILLO COUNTY
SANTA FE COUNTY

LOS ALAMOS COUNTY
SANDOVAL COUNTY
SANTA FE COUNTY

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LOS ALAMOS COUNTY
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SANTA FE COUNTY

LOS ALAMOS COUNTY
SANDOVAL COUNTY
SANTA FE COUNTY

LEGEND

DRY SOILS ON PLATEAUS AND FLOOD PLAINS

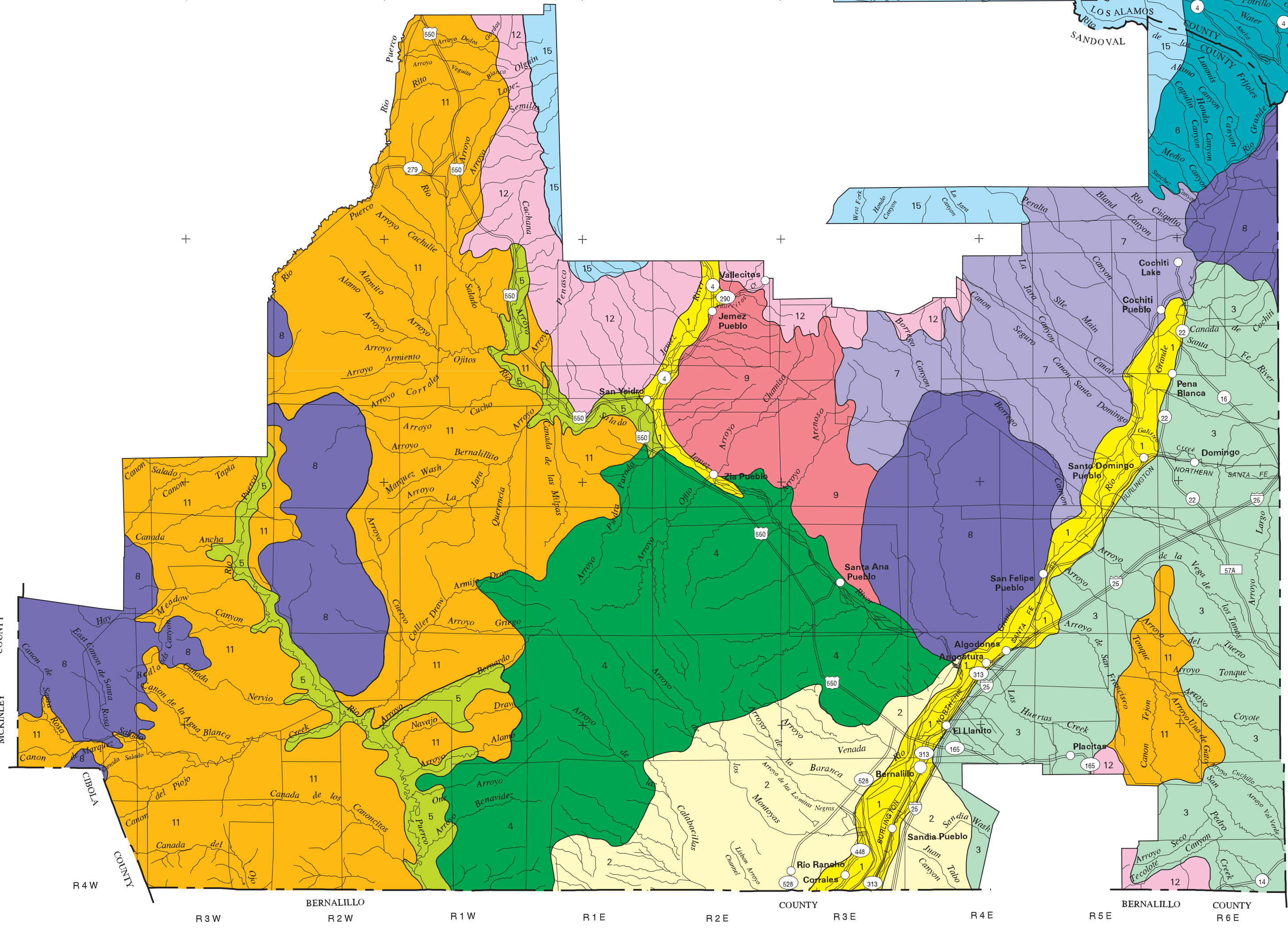
- 1 Gilco-Trail-Peralta
Very deep soils on the flood plain of the Rio Grande.
- 2 Sheppard-Grieta
Very deep soils on plateaus.

MOIST SOILS ON VALLEY FLOORS, PLATEAUS, ALLUVIAL FANS, AND MESAS

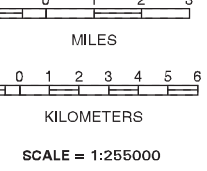
- 3 Harvey-Cascajo-Ildefonso
Very deep soils on alluvial fans.
- 4 Pinavetes-Cloviss-Zia
Very deep soils on plateaus, dunes, and stream terraces.
- 5 Sparank
Very deep soils on valley floors.
- 6 Rock outcrop-Frijoles-Hackroy
Rock outcrop and deep to shallow soils on narrow mesas formed from tuff and pumice.
- 7 Bamac-Espiritu-Cochiti
Very deep soils on mountain slopes.
- 8 Silver-Ildefonso-Cloviss
Very deep soils on basalt mesas.
- 9 Royosa-Fragua
Very deep soils on dunes and fan remnants.
- 10 Blancot-Badland-Councilor
Very deep soils and Badland on valley side slopes and stream terraces.
- 11 Sandoval-Querencia-Zia
Shallow and very deep soils on valley side slopes and stream terraces.
- 12 Menefee-Vessilla-Orlie
Shallow and very deep soils on cuestas and mesa side slopes and tops.
- 13 Doakum-Betonnies
Very deep soils on plateaus.

MOIST, COLD SOILS ON MOUNTAIN SLOPES AND VALLEYS

- 14 Cosey-Jarmillo-Tranquilar
Very deep soils in mountain valleys.
- 15 Redondo-Palon-Calaveras
Very deep soils on mountainside slopes and summits.

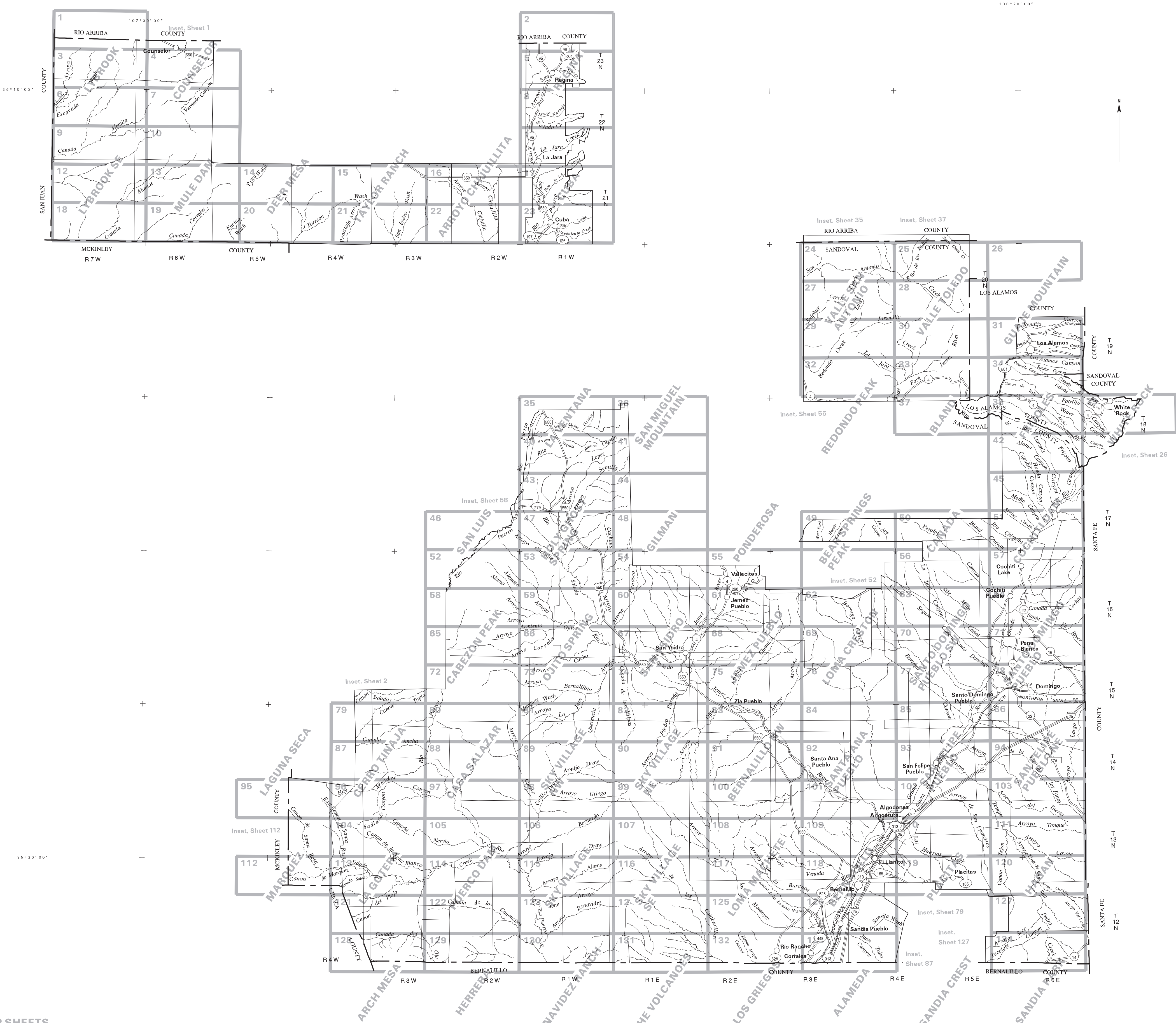


UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
NEW MEXICO AGRICULTURAL EXPERIMENT STATION
GENERAL SOIL MAP
SANDOVAL COUNTY AREA, NEW MEXICO
PARTS OF
LOS ALAMOS, RIO ARRIBA, AND SANDOVAL COUNTIES

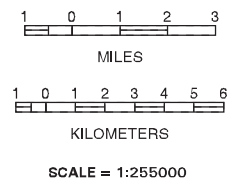


SECTIONALIZED TOWNSHIP											
6	5	4	3	2	1						
7	8	9	10	11	12						
18	17	16	15	14	13						
19	20	21	22	23	24						
30	29	28	27	26	25						
31	32	33	34	35	36						

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.



INDEX TO MAP SHEETS
SANDOVAL COUNTY AREA, NEW MEXICO
PARTS OF
LOS ALAMOS, RIO ARRIBA, AND SANDOVAL COUNTIES



SECTIONALIZED TOWNSHIP											
6	5	4	3	2	1						
7	8	9	10	11	12						
18	17	16	15	14	13						
19	20	21	22	23	24						
30	29	28	27	26	25						
31	32	33	34	35	36						

SOIL LEGEND

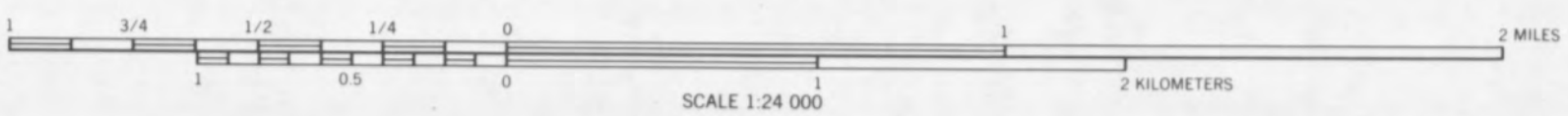
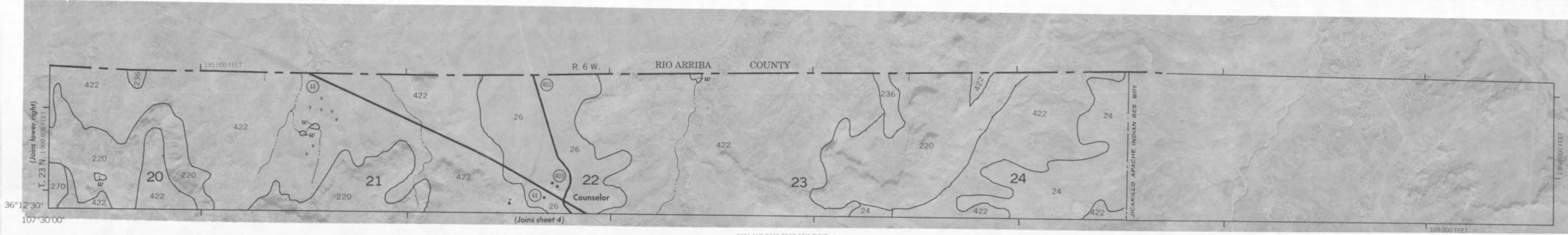
SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
1	Silver-Clovis loams, 1 to 7 percent slopes	105	Badland-Menefee complex, 15 to 35 percent slopes	307	Flugle-Waumac complex, 1 to 8 percent slopes
2	Clovis-Prieta-Silver association, 3 to 15 percent slopes	106	Stumble association, 1 to 40 percent slopes	308	Cajete gravelly loam, 0 to 8 percent slopes
3	Montecito-Orejas complex, 1 to 7 percent slopes	108	Embudo gravelly sandy loam, 1 to 15 percent slopes	311	Cosey-Tranquilar-Calaveras association, 5 to 20 percent slopes
4	Montecito complex, 3 to 30 percent slopes	109	Embudo-Tijeras association, 1 to 9 percent slopes	312	Royosa sand, 1 to 8 percent slopes
10	Trail silty clay loam, 0 to 1 percent slopes	110	Rock outcrop-Saido complex, 5 to 40 percent slopes	314	Fragua-Waumac-Royosa complex, 1 to 8 percent slopes
11	Trail fine sandy loam, 0 to 1 percent slopes	111	Rock outcrop-Zia complex, 8 to 25 percent slopes	317	Elpedro loam, 1 to 8 percent slopes
13	Sandoval-Querencia association, 2 to 7 percent slopes	112	Tijeras gravelly fine sandy loam, 1 to 5 percent slopes	319	Bamac-Rock outcrop complex, 15 to 55 percent slopes
15	Camino-Sandoval complex, 1 to 8 percent slopes	114	Zia-San Mateo association, 0 to 9 percent slopes	320	Sparham silt loam, 0 to 3 percent slopes
16	Rock outcrop-Prieta complex, 3 to 15 percent slopes	120	Pinavetes loamy sand, 3 to 5 percent slopes	321	Waumac-Royosa association, 1 to 15 percent slopes
17	Vessilla-Menefee-Rock outcrop complex, 3 to 15 percent slopes	124	Rock outcrop	322	Fragua very cobbly fine sandy loam, 15 to 70 percent slopes
18	Sparham clay, 0 to 3 percent slopes	129	Menefee clay loam, 5 to 35 percent slopes	324	Rock outcrop-Atarque-Menefee complex, 5 to 25 percent slopes
20	Gilco clay loam, 0 to 1 percent slopes	130	Pinavetes-Galisteo, moderately saline, sodic, association, 0 to 5 percent slopes	325	Rock outcrop-Vessilla-Espiritu complex, 25 to 65 percent slopes
21	Rock outcrop-Hackroy complex, 1 to 8 percent slopes	142	Grieta fine sandy loam, 1 to 4 percent slopes	342	Waumac-Vessilla-Rock outcrop complex, 5 to 40 percent slopes
22	Aga silty clay loam, 0 to 1 percent slopes	143	Clovis fine sandy loam, 1 to 4 percent slopes	345	Espiritu-Bamac association, 15 to 55 percent slopes
23	Hickman clay loam, 1 to 3 percent slopes	145	Grieta-Sheppard loamy fine sands, 2 to 9 percent slopes	346	Espiritu, cobbly-Bamac association, 15 to 40 percent slopes
24	Orlie-Sparham association, 0 to 5 percent slopes	146	Sedmar loamy sand, 1 to 15 percent slopes	348	Wauquie-Rock outcrop complex, 25 to 45 percent slopes
25	Gilco loam, 0 to 1 percent slopes	150	Doakum-Betonnie fine sandy loams, 0 to 8 percent slopes	353	Cochiti-Espiritu association, 15 to 55 percent slopes
26	Orlie loam, 0 to 8 percent slopes	162	Hackroy-Nyjack association, 1 to 5 percent slopes	354	Waumac variant very gravelly sandy loam, 1 to 15 percent slopes
27	Aga loam, 0 to 1 percent slopes	163	Jemez loam, 1 to 15 percent slopes	358	Deama-Elpedro-Rock outcrop complex, 10 to 55 percent slopes
29	Trail loamy sand, 0 to 1 percent slopes	170	San Mateo loam, 0 to 3 percent slopes	396	Atarque-Menefee-Rock outcrop complex, 25 to 45 percent slopes
31	Riverwash	180	Councilor-Eslendo-Mespun complex, 5 to 30 percent slopes	397	Rock outcrop-Cucho-Vessilla complex, 25 to 70 percent slopes
33	Pits	183	Sheppard loamy fine sand, 8 to 15 percent slopes	398	Espiritu-Cucho association, 8 to 55 percent slopes
34	Ildefonso-Witt association, 1 to 8 percent slopes	185	Frijoles very fine sandy loam, 1 to 8 percent slopes	399	Cucho-Teco complex, 8 to 40 percent slopes
41	Dune land	190	Zia-Skyvillage-Rock outcrop complex, 5 to 40 percent slopes	405	Charo complex, 1 to 5 percent slopes
47	Cascajo very gravelly sandy loam, 12 to 30 percent slopes	191	Sheppard loamy fine sand, 3 to 8 percent slopes	409	Santa Fe very gravelly sandy loam, 15 to 40 percent slopes, stony
51	Sparham clay loam, 0 to 1 percent slopes	200	Sedillo very cobbly sandy loam, 5 to 25 percent slopes, stony	410	Zia loam, 0 to 1 percent slopes
52	Totavi loamy sand, 0 to 5 percent slopes	201	Rock outcrop-Sedgran association, 25 to 55 percent slopes	414	Wauquie very gravelly fine sandy loam, 8 to 25 percent slopes
53	Witt-Harvey association, 1 to 7 percent slopes	206	Pinitos loam, 1 to 15 percent slopes	417	Jocity loam, 0 to 2 percent slopes
54	Harvey-Cascajo association, 5 to 15 percent slopes	207	Penistaja-Zia complex, 1 to 8 percent slopes	418	Jocity clay loam, 0 to 2 percent slopes
55	La Fonda loam, 1 to 5 percent slopes	208	Sedillo very gravelly fine sandy loam, 25 to 55 percent slopes	419	Santa Fe-Wauquie-Rock outcrop complex, 25 to 70 percent slopes
56	Ildefonso cobbly loam, 15 to 35 percent slopes	210	Ildefonso very stony loam, 25 to 70 percent slopes, rubbly	420	Pinavetes loamy sand, 1 to 3 percent slopes
57	Badland	211	Zia-Clovis association, 2 to 10 percent slopes	421	Gilco loam, moderately saline, sodic, 0 to 1 percent slopes
58	Deama-Elpedro association, 5 to 30 percent slopes	213	Pinavetes-Rock outcrop complex, 15 to 35 percent slopes	422	Vessilla-Menefee-Orlie association, 0 to 30 percent slopes
59	Harvey-Ildefonso-La Fonda association, 3 to 15 percent slopes	215	Ess-Rock outcrop complex, 5 to 45 percent slopes	423	Gilco loam, 1 to 4 percent slopes
63	Placitas gravelly loam, 8 to 40 percent slopes	217	Witt loam, 1 to 8 percent slopes	426	Aga loam, moderately saline, sodic, 0 to 1 percent slopes
64	Skyvillage-Ildefonso association, 8 to 40 percent slopes	218	Ildefonso very cobbly loam, 1 to 15 percent slopes	427	Aga loam, 1 to 3 percent slopes
65	Ildefonso-Harvey association, 10 to 35 percent slopes	220	Rock outcrop-Vessilla-Menefee complex, 30 to 40 percent slopes	428	Aga loam, moderately saline, sodic, 1 to 3 percent slopes
66	Zia sandy loam, 3 to 6 percent slopes	226	Galisteo loam, moderately saline, sodic, 1 to 3 percent slopes	430	Trail loam, 1 to 3 percent slopes
67	Sandoval-Poley complex, 3 to 30 percent slopes	227	Hagerman-Bond association, 1 to 8 percent slopes	431	Trail loamy sand, 1 to 4 percent slopes
68	Penistaja-Querencia complex, 2 to 7 percent slopes	228	Winona very channery fine sandy loam, 8 to 25 percent slopes	433	Peralta loam, 0 to 1 percent slopes
71	Palon cobbly sandy loam, 15 to 35 percent slopes	230	Skyvillage-Sandoval-Rock outcrop complex, 3 to 20 percent slopes	434	Peralta loam, 1 to 3 percent slopes
72	Palon very cobbly sandy loam, 35 to 65 percent slopes	231	Querencia loam, 1 to 8 percent slopes	437	Peralta loam, moderately saline, sodic, 1 to 3 percent slopes
74	Origo-Pavo association, 5 to 35 percent slopes	234	Querencia-Zia complex, 2 to 8 percent slopes	500	Rock outcrop-Osha-Rubble land complex, 40 to 70 percent slopes
75	Origo very cobbly sandy loam, 35 to 65 percent slopes	235	Sandoval fine sandy loam, 3 to 15 percent slopes	503	Cajete-Cypher association, 8 to 50 percent slopes
82	Calaveras loam, 15 to 35 percent slopes	236	Sparank clay loam, moderately saline, sodic, 0 to 1 percent slopes	504	Orejas-Guaje complex, 1 to 15 percent slopes
83	Calaveras-Rubble land association, 35 to 60 percent slopes	237	Sparank silty clay loam, 0 to 3 percent slopes	600	Rock outcrop-Cypher complex, 35 to 60 percent slopes
85	Redondo coarse sandy loam, 15 to 35 percent slopes	240	Penistaja-Hagerman association, 1 to 5 percent slopes	601	Laventana gravelly sandy loam, 3 to 15 percent slopes
86	Redondo cobbly coarse sandy loam, 35 to 80 percent slopes	250	Pinavetes loamy fine sand, 5 to 15 percent slopes	603	Laventana-Mirand very cobbly loams, 15 to 55 percent slopes
87	Redondo-Rubble land association, 35 to 80 percent slopes	262	Pastura loam, 1 to 4 percent slopes	604	Cypher-Mirand complex, 15 to 55 percent slopes
88	Totavi-Jemez-Rock outcrop association, 0 to 15 percent slopes	270	Blancot-Councilor-Tsowie association, 0 to 5 percent slopes	608	Osha association, 3 to 55 percent slopes
91	Zia sandy loam, 1 to 3 percent slopes	281	Carjo loam, 1 to 9 percent slopes	823	Gilco loam, 1 to 4 percent slopes, unprotected
92	Galisteo silty clay loam, moderately saline, sodic, 0 to 1 percent slopes	282	Tocal very fine sandy loam, 3 to 8 percent slopes	827	Aga loam, 1 to 3 percent slopes, unprotected
93	Zia loamy sand, 1 to 4 percent slopes	283	Mirand-Alanos complex, 5 to 40 percent slopes	830	Trail loam, 1 to 3 percent slopes, unprotected
95	El Rancho loam, 0 to 2 percent slopes	290	Alanos-Rock outcrop complex, 20 to 40 percent slopes	831	Trail loamy sand, 1 to 3 percent slopes, unprotected
97	El Rancho clay loam, 0 to 2 percent slopes	300	Waumac-Bamac association, 1 to 7 percent slopes	835	Peralta loam, 1 to 3 percent slopes, unprotected
100	Orejas-Rock outcrop complex, 15 to 40 percent slopes	301	Vastine-Jarola silt loams, 0 to 5 percent slopes	842	Peralta clay loam, moderately saline, sodic, 0 to 2 percent slopes, unprotected
101	Blancot-Lybrook association, 0 to 8 percent slopes	302	Tranquilar-Jarmillo complex, 1 to 8 percent slopes	850	Water
102	Sparham clay loam, 1 to 3 percent slopes	304	Cosey-Jarmillo association, 2 to 20 percent slopes	DAM	Dam
104	Cochiti-Montecito association, 1 to 30 percent slopes				

CONVENTIONAL AND SPECIAL
SYMBOLS LEGEND

CULTURAL FEATURES		SPECIAL SYMBOLS FOR SOIL SURVEY	
BOUNDARIES		SOIL DELINEATIONS AND SYMBOLS	
National, state, or province		ESCARPMENTS	
County or parish		Bedrock (points down slope)	
Minor civil division		Other than bedrock (points down slope)	
Reservation (national forest or park, state forest or park, and large airport)		SHORT STEEP SLOPE	
Land grant		GULLY	
Limit of soil survey (label)		DEPRESSION OR SINK	
Field sheet matchline and neatline		SOIL SAMPLE (normally not shown)	
AD HOC BOUNDARY (label)		MISCELLANEOUS	
Small airport, airfield, park, oilfield, cemetery, or flood pool		Blowout	
STATE COORDINATE TICK 1 890 000 FEET		Clay spot	
LAND DIVISION CORNER (sections and land grants)		Gravelly spot	
ROADS		Gumbo, slick or scabby spot (sodic)	
Divided (median shown if scale permits)		Dumps and other similar non soil areas	
Other roads		Prominent hill or peak	
Trail		Rock outcrop (includes sandstone and shale)	
ROAD EMBLEM & DESIGNATIONS		Saline spot	
Interstate		Sandy spot	
Federal		Severely eroded spot	
State		Slide or slip (tips point upslope)	
County, farm or ranch		Stony spot, very stony spot	
RAILROAD		LAKES, PONDS AND RESERVOIRS	
POWER TRANSMISSION LINE (normally not shown)		Perennial	
PIPE LINE (normally not shown)		Intermittent	
FENCE (normally not shown)		MISCELLANEOUS WATER FEATURES	
LEVEES		Marsh or swamp	
Without road		Spring	
With road		Well, artesian	
With railroad		Well, irrigation	
DAMS		Wet spot	
Large (to scale)			
Medium or Small (Named where applicable)			
PITS			
Gravel pit			
Mine or quarry			

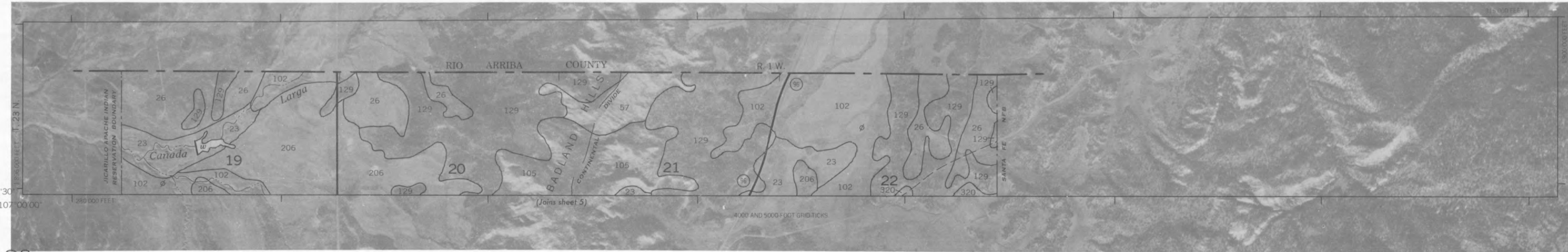
UNITED STATES
DEPARTMENT OF THE INTERIOR

LYBROOK QUADRANGLE



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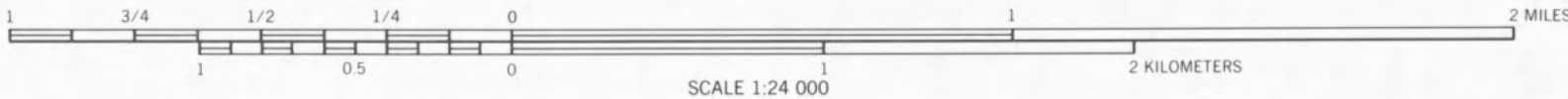
SOIL SURVEY OF SANDOVAL COUNTY AREA, NEW MEXICO, LOS ALAMOS COUNTY AND PART OF SANDOVAL COUNTY — SHEET NUMBER 2



SANDOVAL CO. AREA NEW MEXICO
SCALE 1:24,000
ATLAS SHEET NO. 2

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AS2

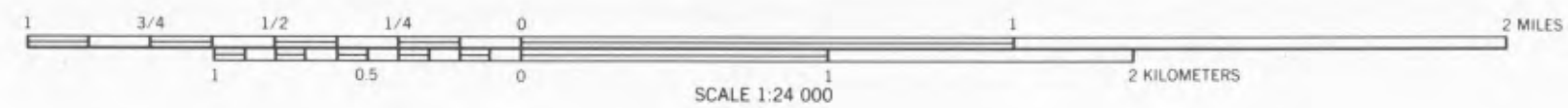


SOIL SURVEY OF SANDOVAL COUNTY AREA, NEW MEXICO, LOS ALAMOS COUNTY AND PART OF SANDOVAL COUNTY — SHEET NUMBER 3

This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



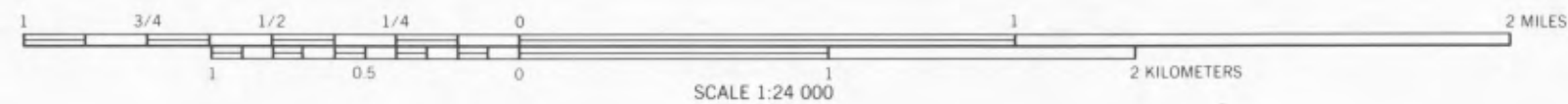
AS3



④



AS4

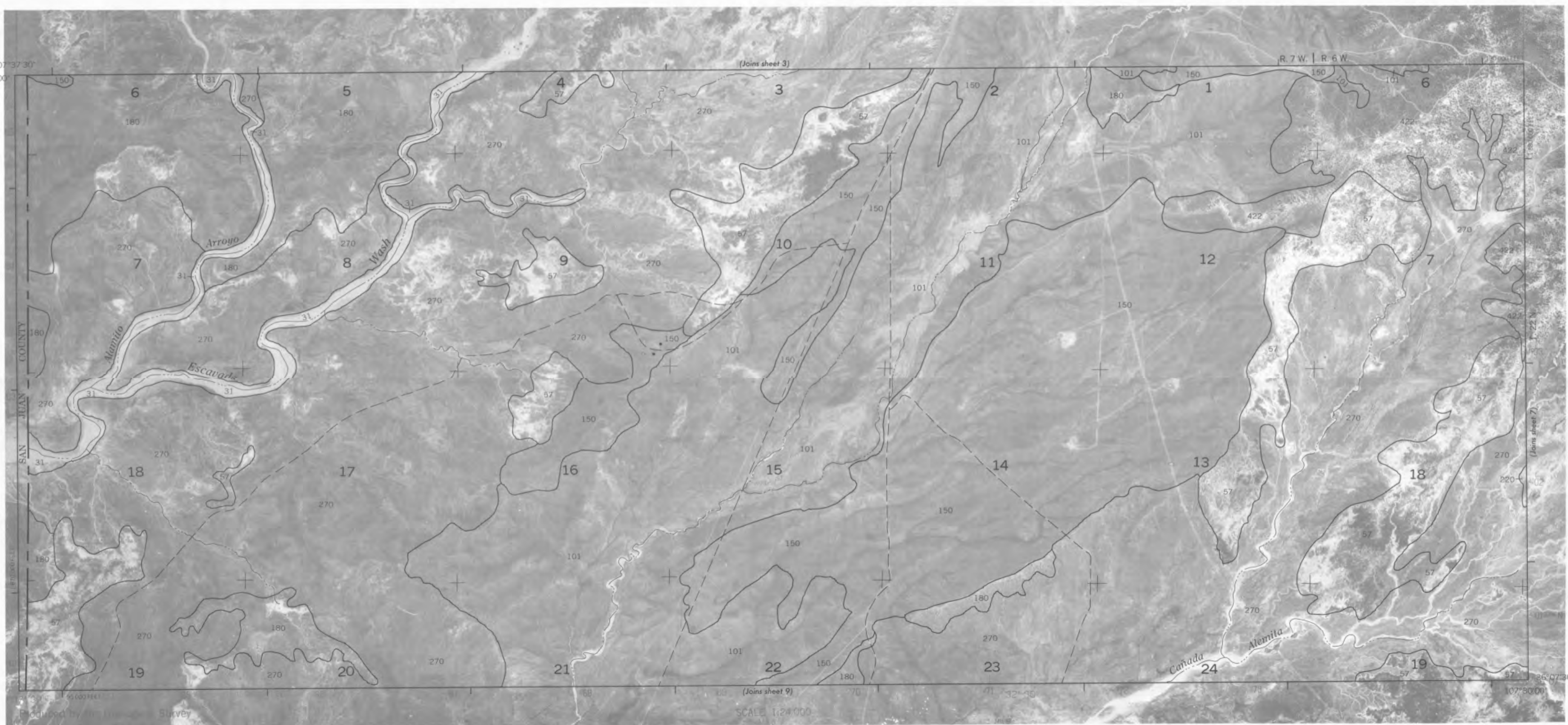


SOIL SURVEY OF SANDOVAL COUNTY AREA, NEW MEXICO, LOS ALAMOS COUNTY AND PART OF SANDOVAL COUNTY — SHEET NUMBER 5

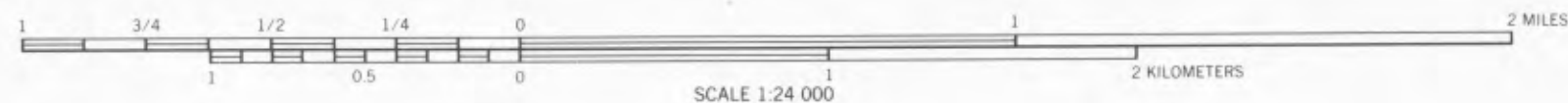
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



SOIL SURVEY OF SANDOVAL COUNTY AREA, NEW MEXICO, LOS ALAMOS COUNTY AND PART OF SANDOVAL COUNTY — SHEET NUMBER 6

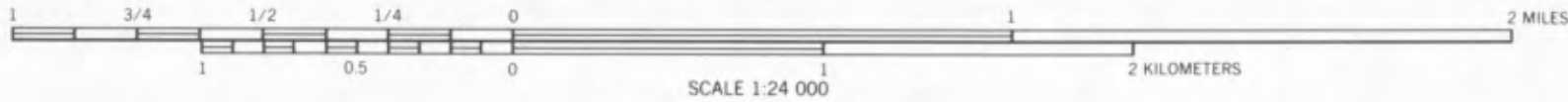


This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



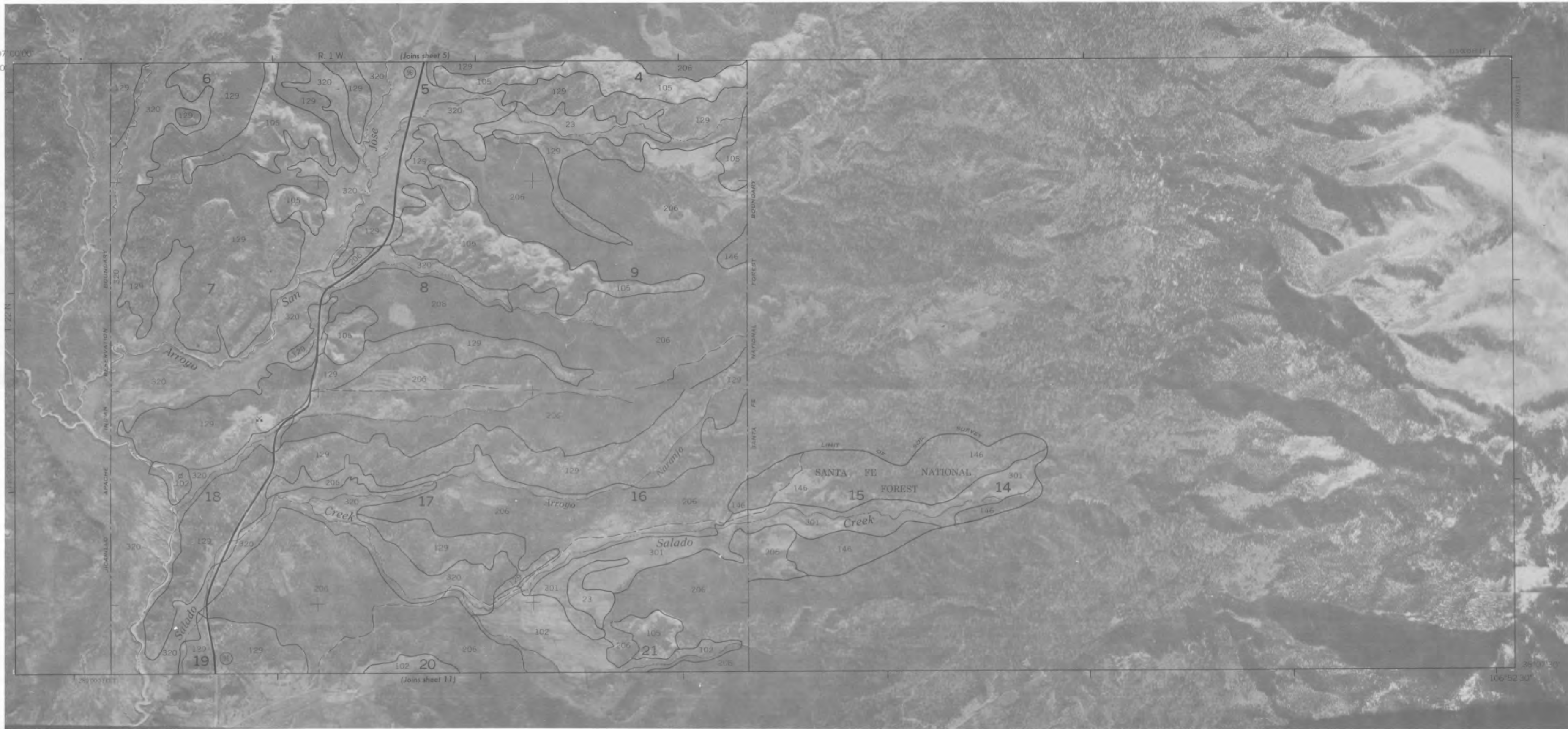


AS7



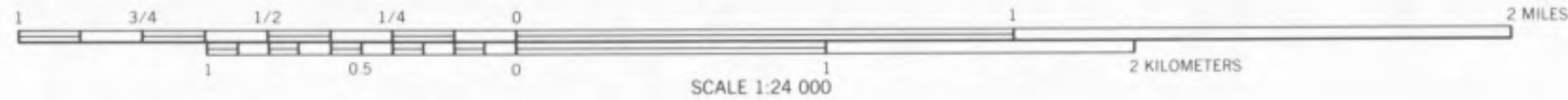
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

SOIL SURVEY OF SANDOVAL COUNTY AREA, NEW MEXICO, LOS ALAMOS COUNTY AND PART OF SANDOVAL COUNTY — SHEET NUMBER 8

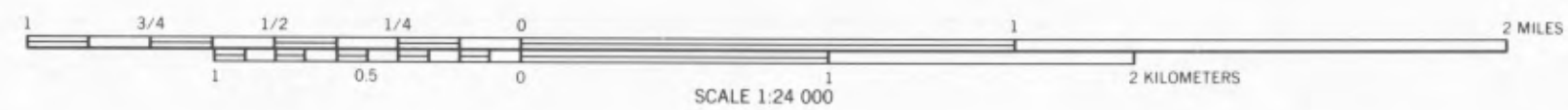


This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

AS8



SOIL SURVEY OF SANDOVAL COUNTY AREA, NEW MEXICO, LOS ALAMOS COUNTY AND PART OF SANDOVAL COUNTY — SHEET NUMBER 9



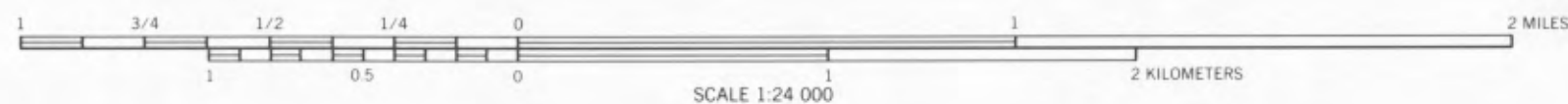
SOIL SURVEY OF SANDOVAL COUNTY AREA, NEW MEXICO, LOS ALAMOS COUNTY AND PART OF SANDOVAL COUNTY — SHEET NUMBER 10

0
N
36°07'30"
107°30'00"



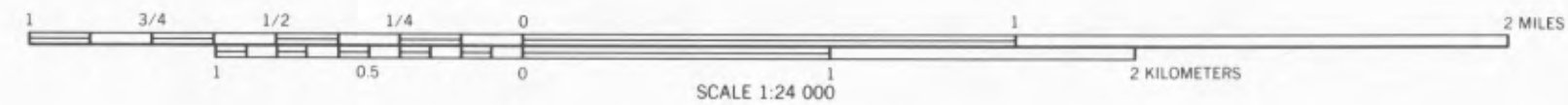
This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U. S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corner, if shown, are approximately positioned.

AS10

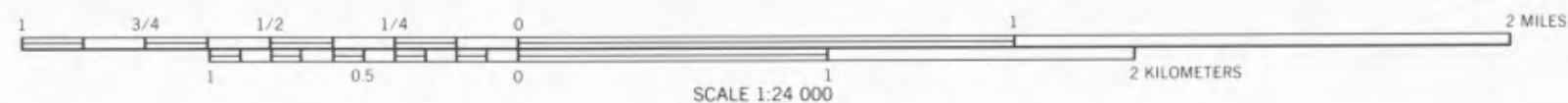
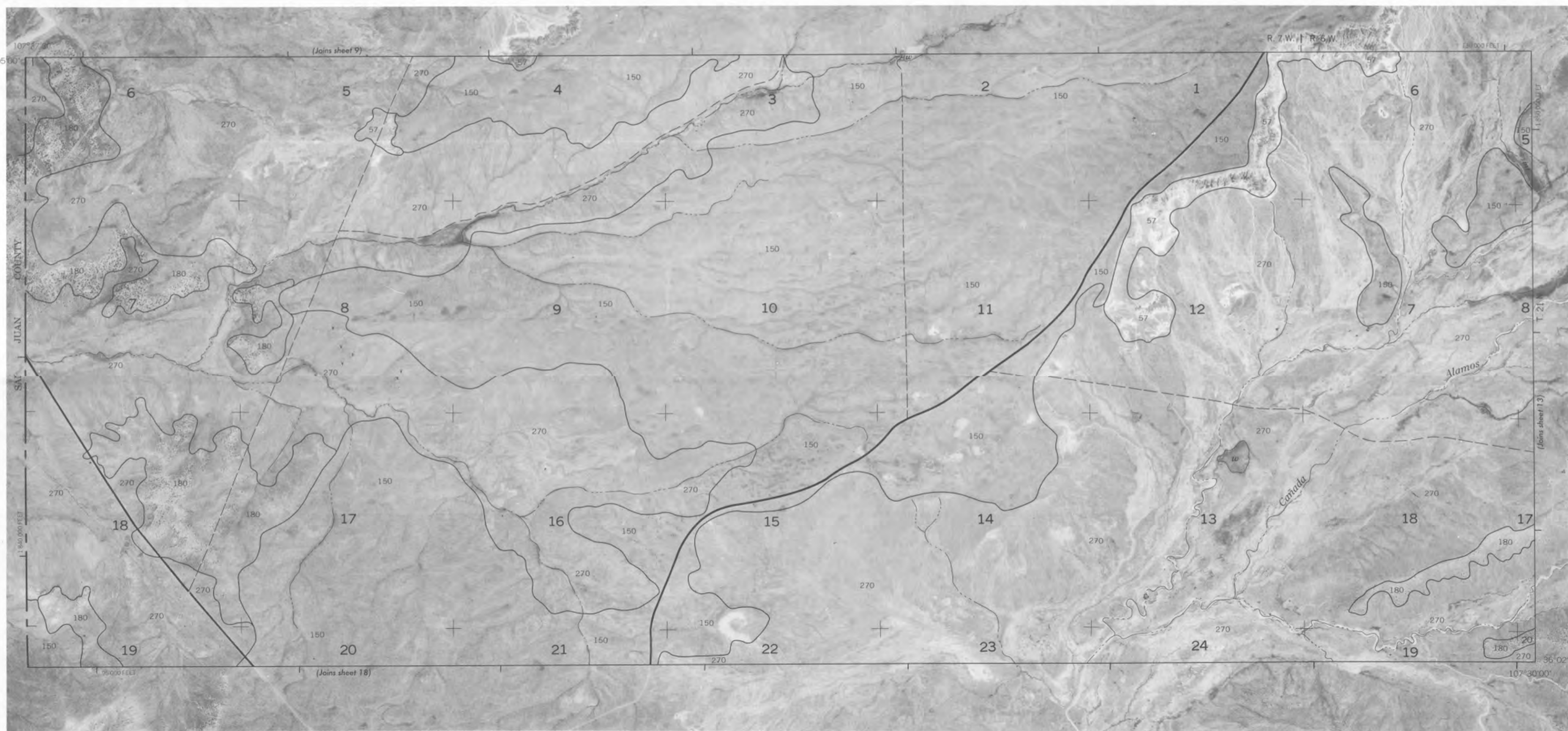


SOIL SURVEY OF SANDOVAL COUNTY AREA, NEW MEXICO, LOS ALAMOS COUNTY AND PART OF SANDOVAL COUNTY — SHEET NUMBER 11

This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



SOIL SURVEY OF SANDOVAL COUNTY AREA, NEW MEXICO, LOS ALAMOS COUNTY AND PART OF SANDOVAL COUNTY — SHEET NUMBER 12



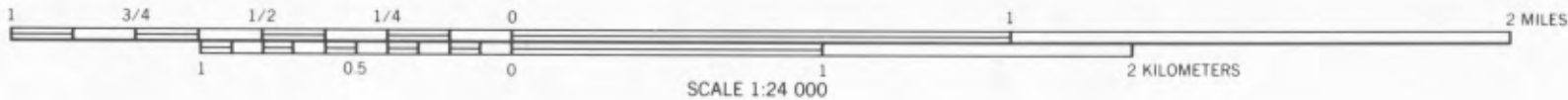
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

SOIL SURVEY OF SANDOVAL COUNTY AREA, NEW MEXICO, LOS ALAMOS COUNTY AND PART OF SANDOVAL COUNTY — SHEET NUMBER 13

This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

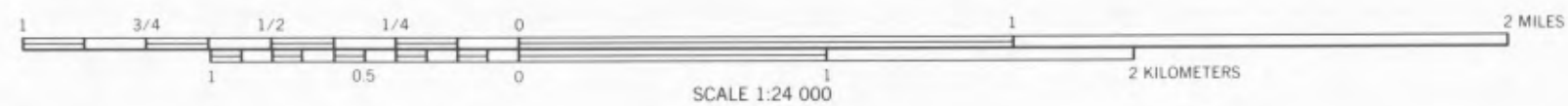


AS13



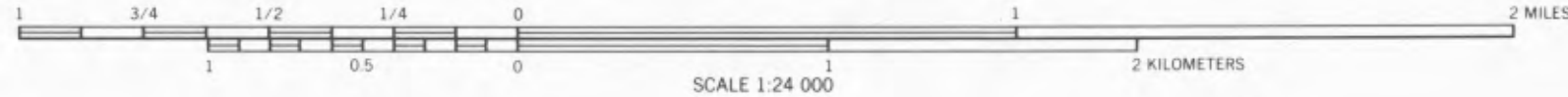
4
N
↑

SOIL SURVEY OF SANDOVAL COUNTY AREA, NEW MEXICO, LOS ALAMOS COUNTY AND PART OF SANDOVAL COUNTY — SHEET NUMBER 14

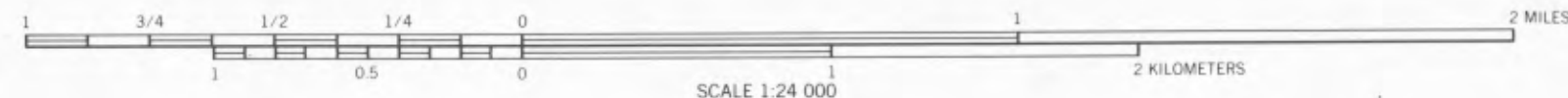


This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

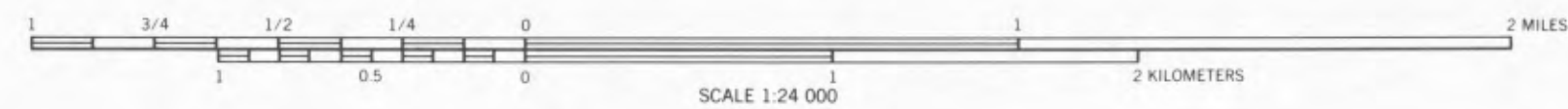
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974 - 1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

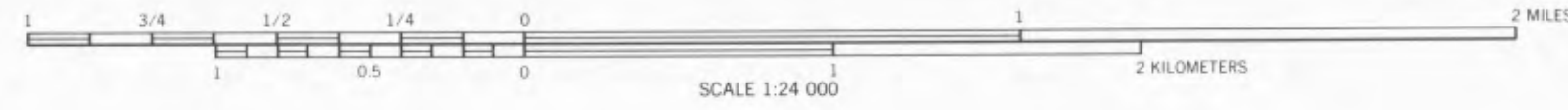


1



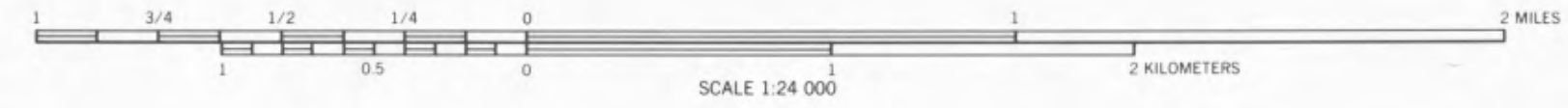
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

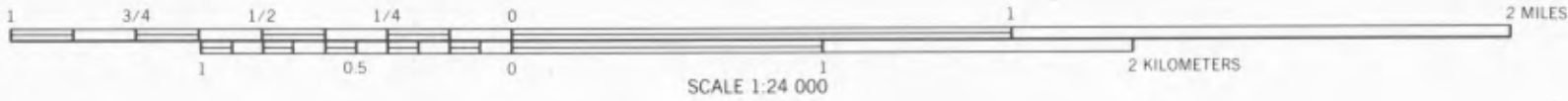
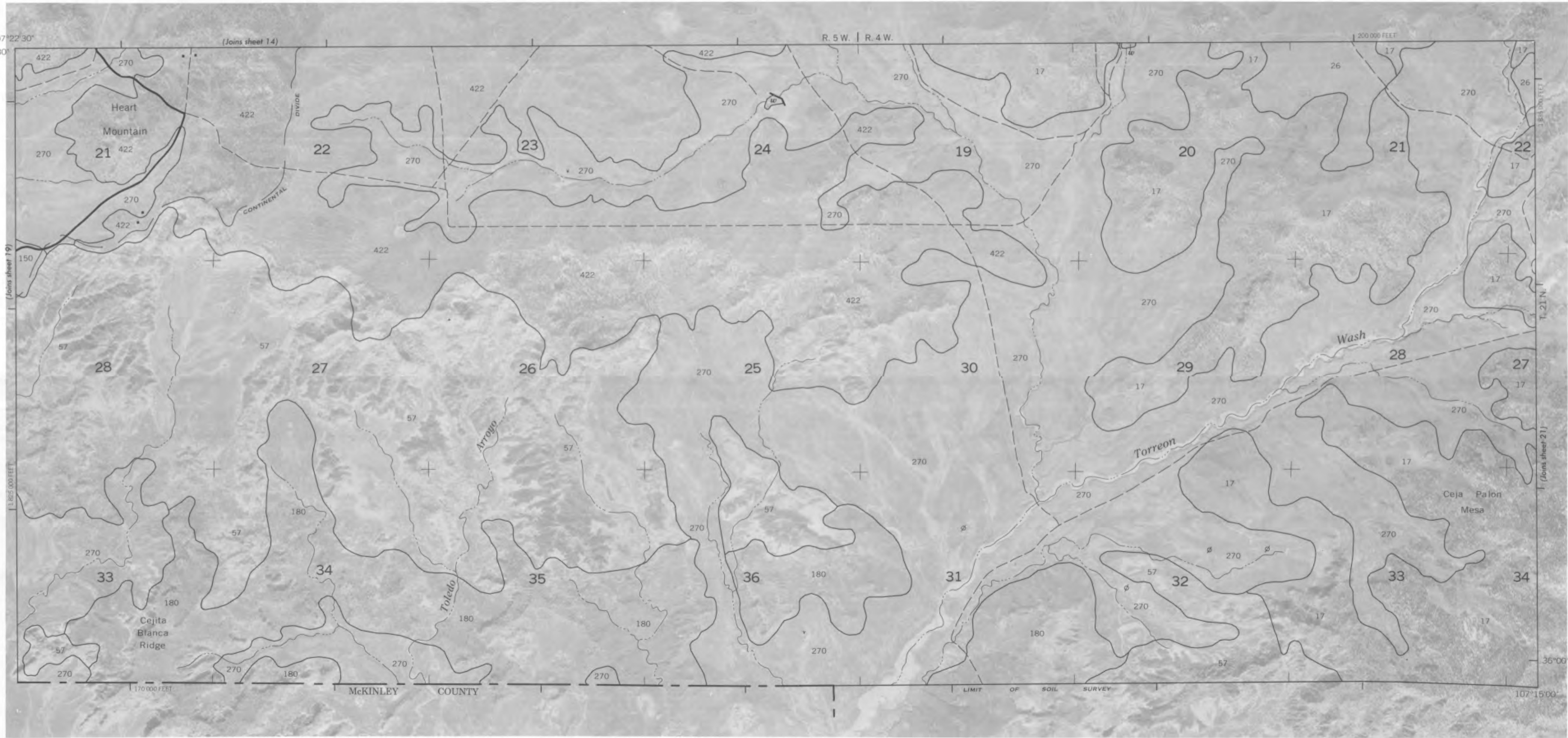




This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



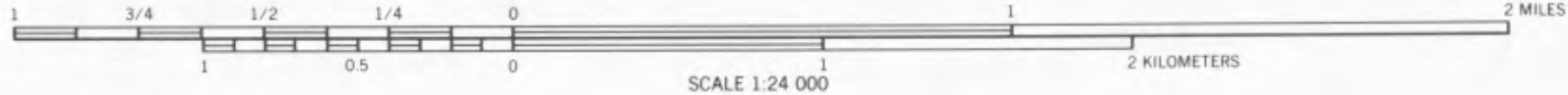


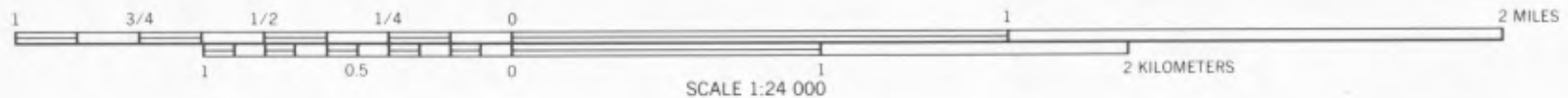
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

SOIL SURVEY OF SANDOVAL COUNTY AREA, NEW MEXICO, LOS ALAMOS COUNTY AND PART OF SANDOVAL COUNTY — SHEET NUMBER 21

21
N

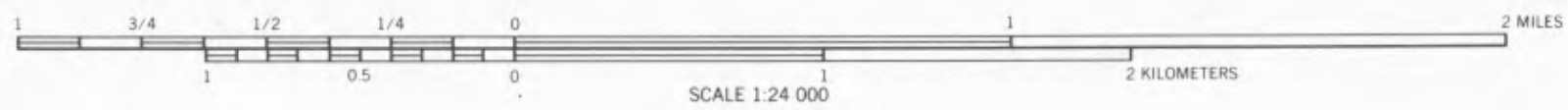
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.





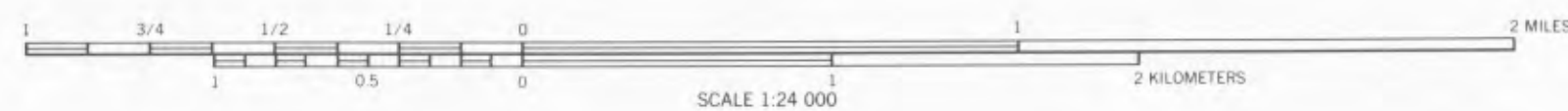
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.





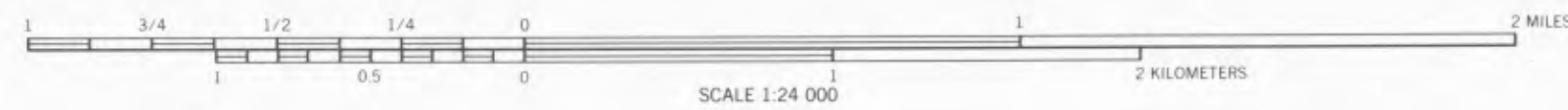
AS24



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

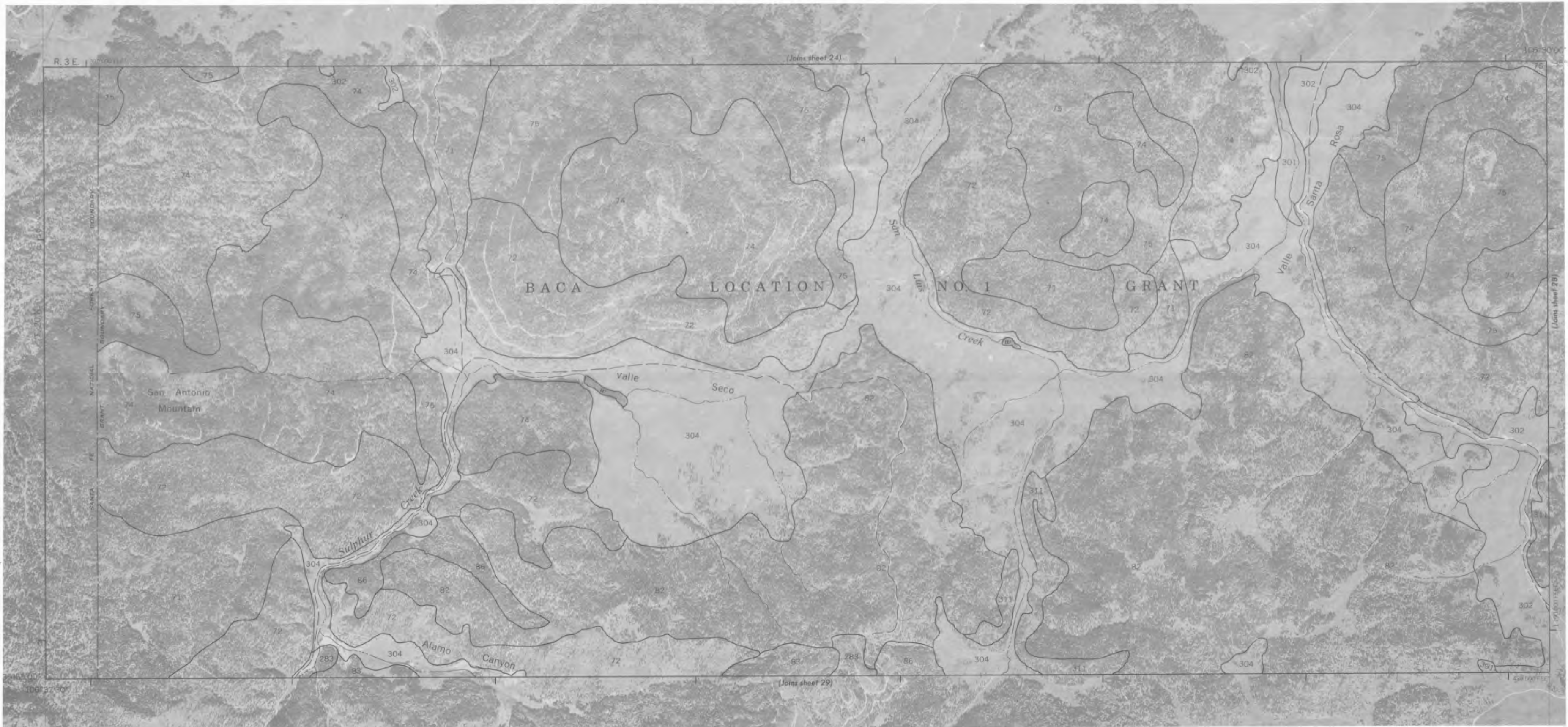


AS26

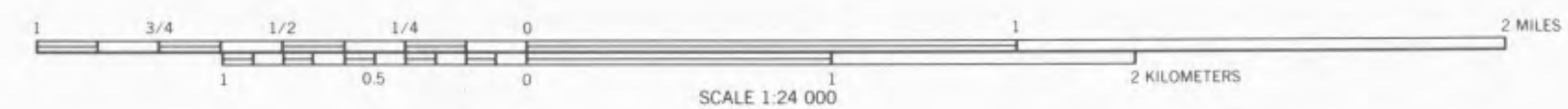


This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974 - 1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974 - 1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

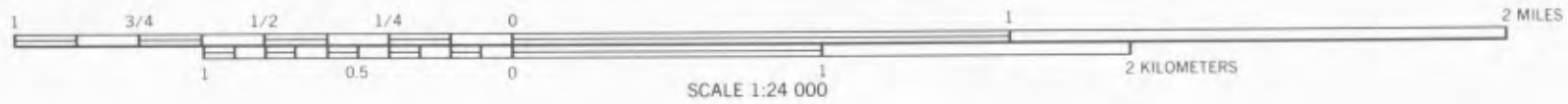


AS27





AS28



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

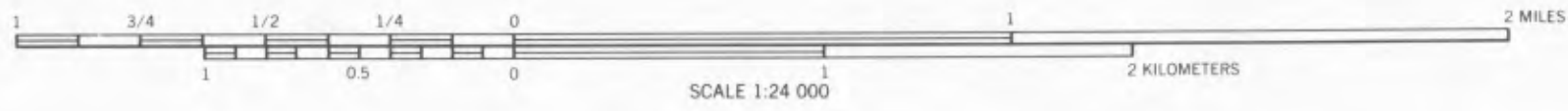




AS30



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

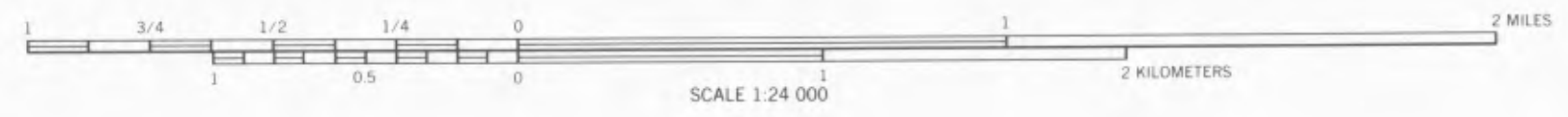




106°30'00"
35°52'30"



AS32

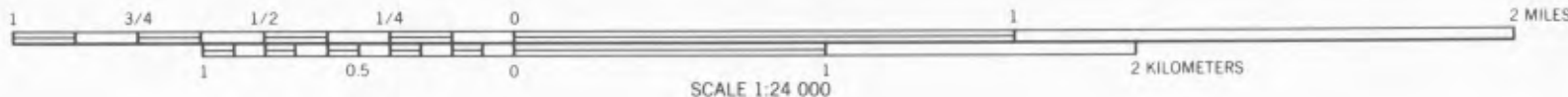


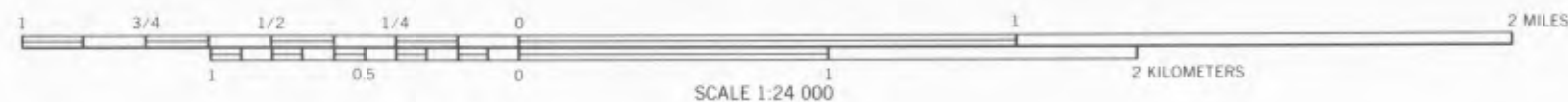
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

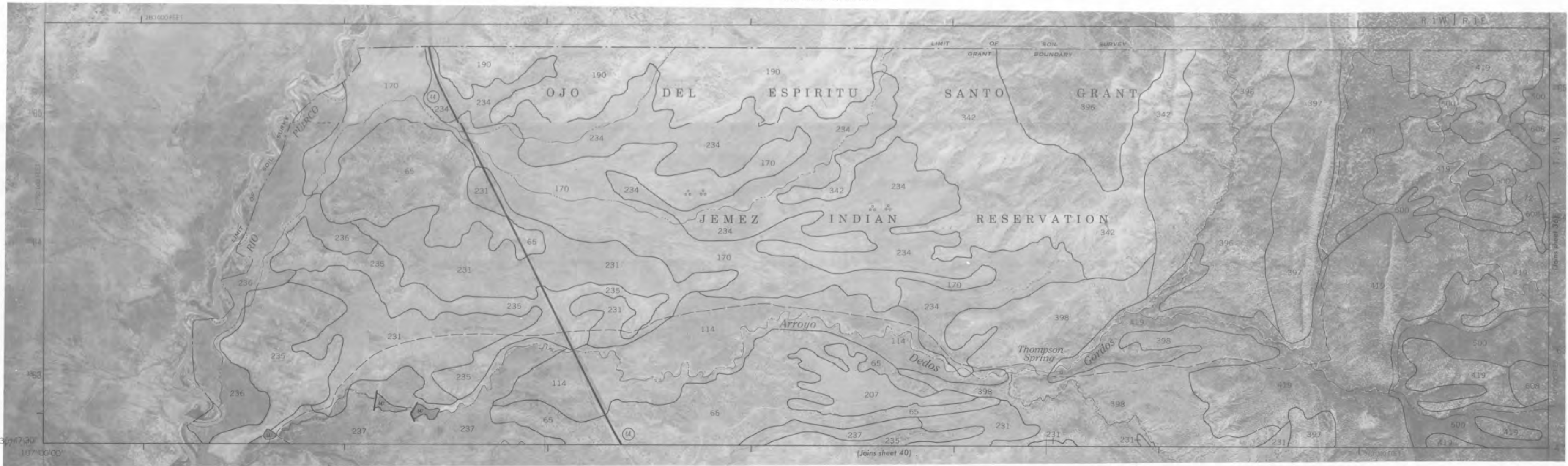
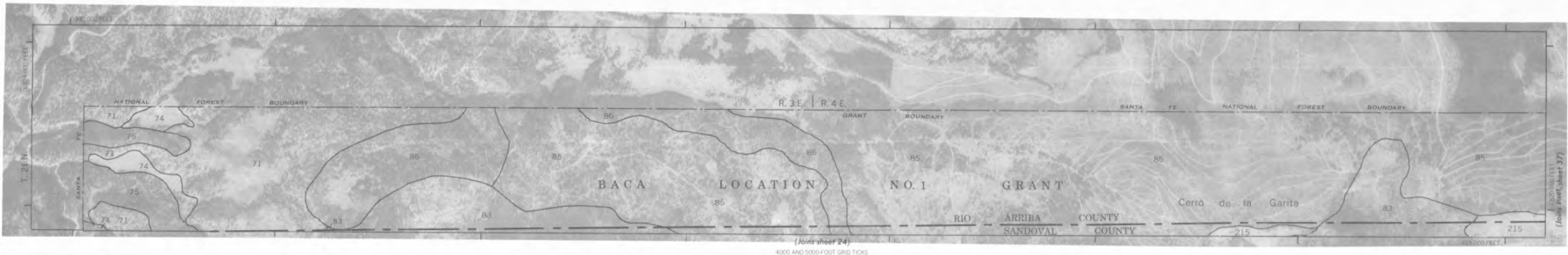
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



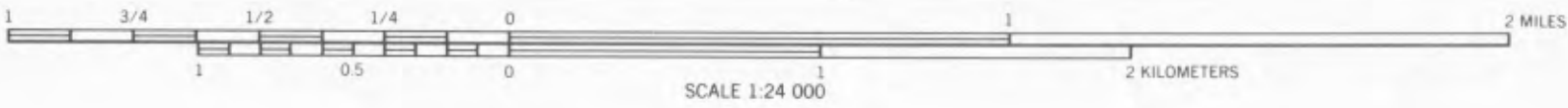
AS33







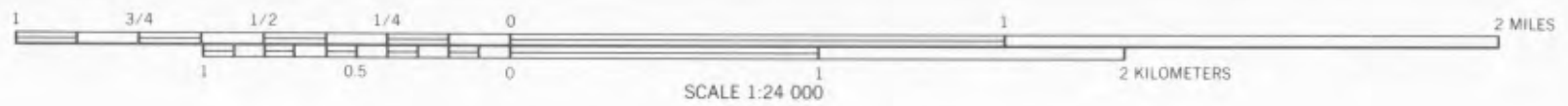
AS35



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



AS36

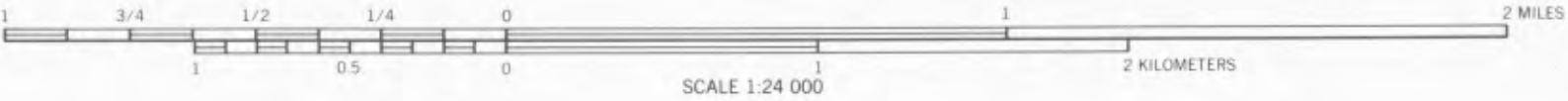


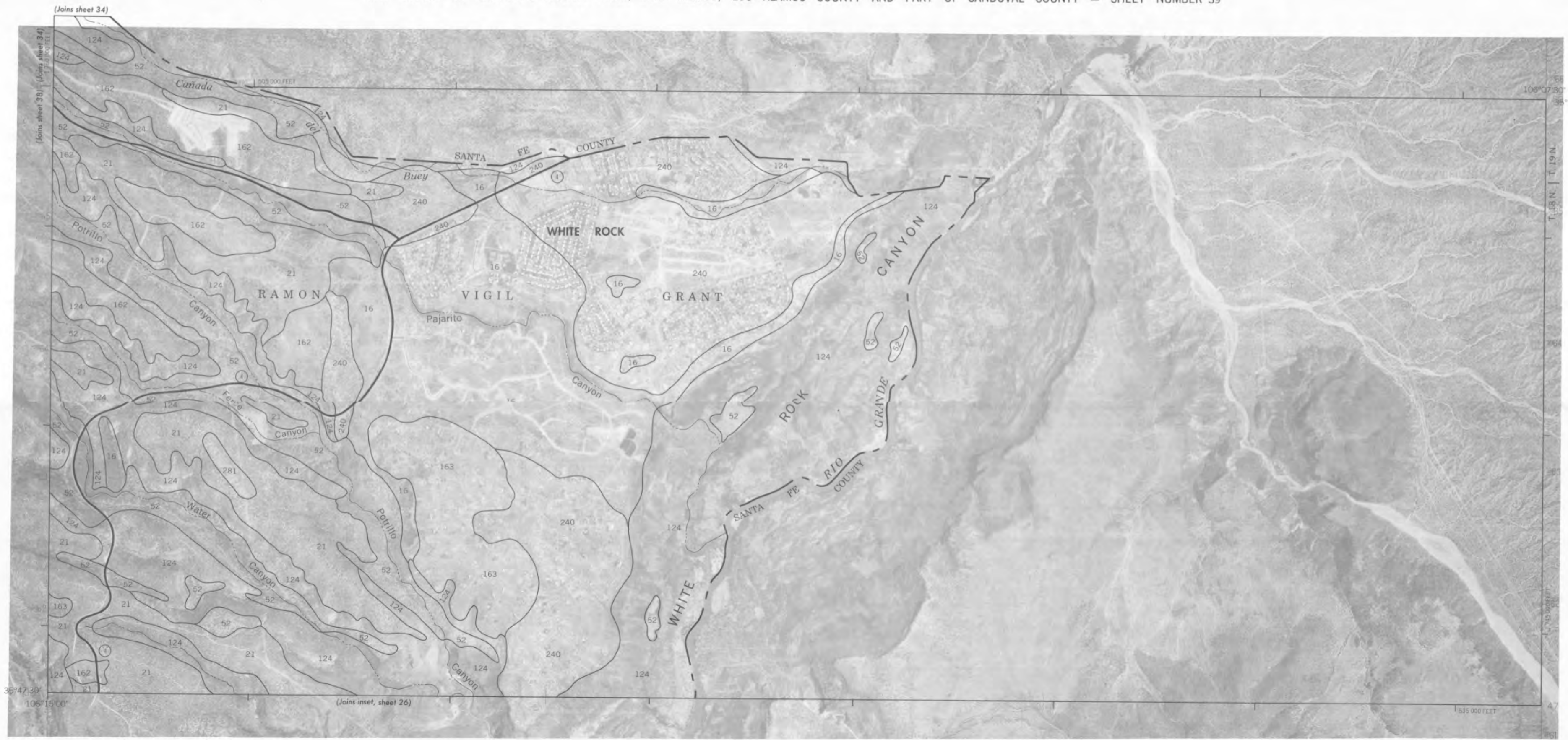
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



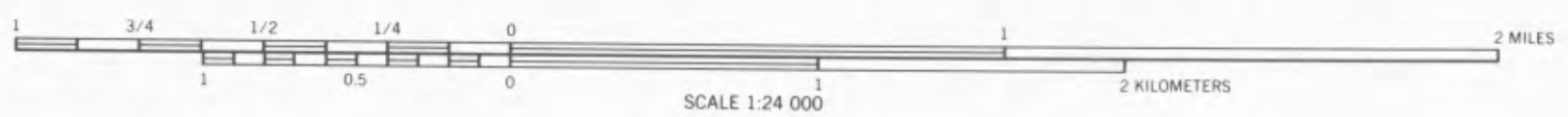
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

AS38





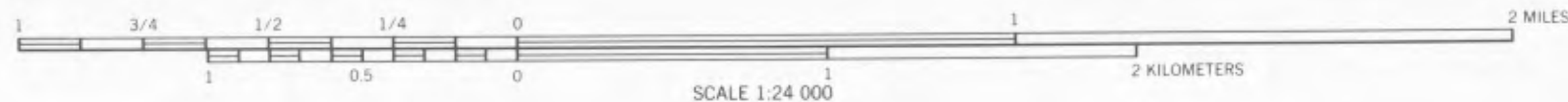
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corner, if shown, are approximately positioned.



SOIL SURVEY OF SANDOVAL COUNTY AREA, NEW MEXICO, LOS ALAMOS COUNTY AND PART OF SANDOVAL COUNTY — SHEET NUMBER 40



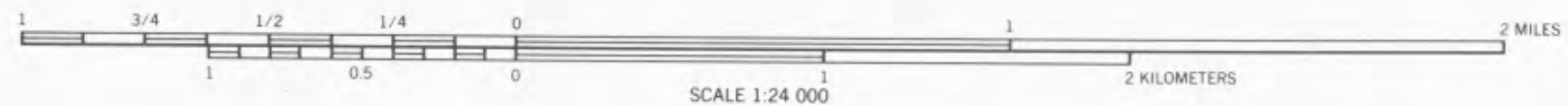
Produced by the Geological Survey
Orthophotograph prepared from 1:80,000 scale
aerial photograph taken June 20, 1975



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corner, if shown, are approximately positioned.

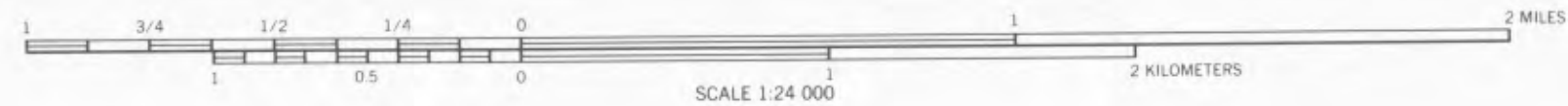


AS41





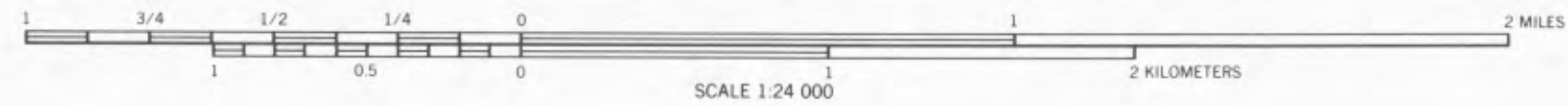
AS42



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974 - 1977 aerial photography. Coordinate grid ticks and land division corners if shown, are approximately positioned.



AS43

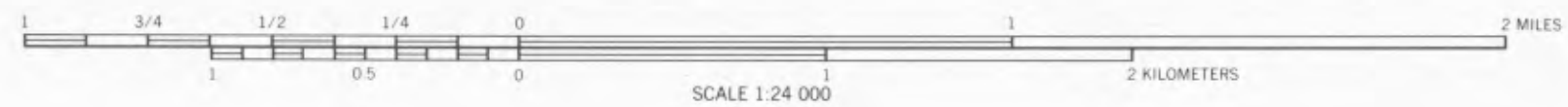


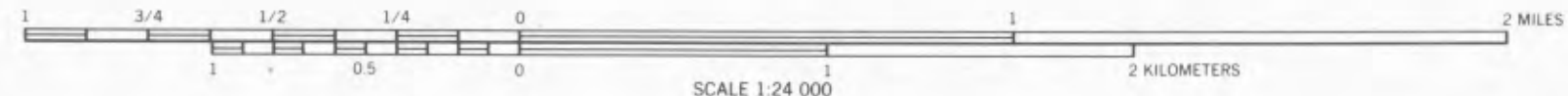
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

AS44

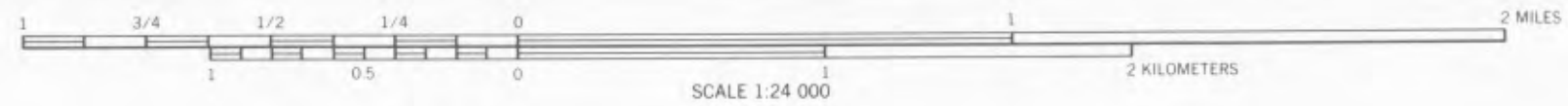




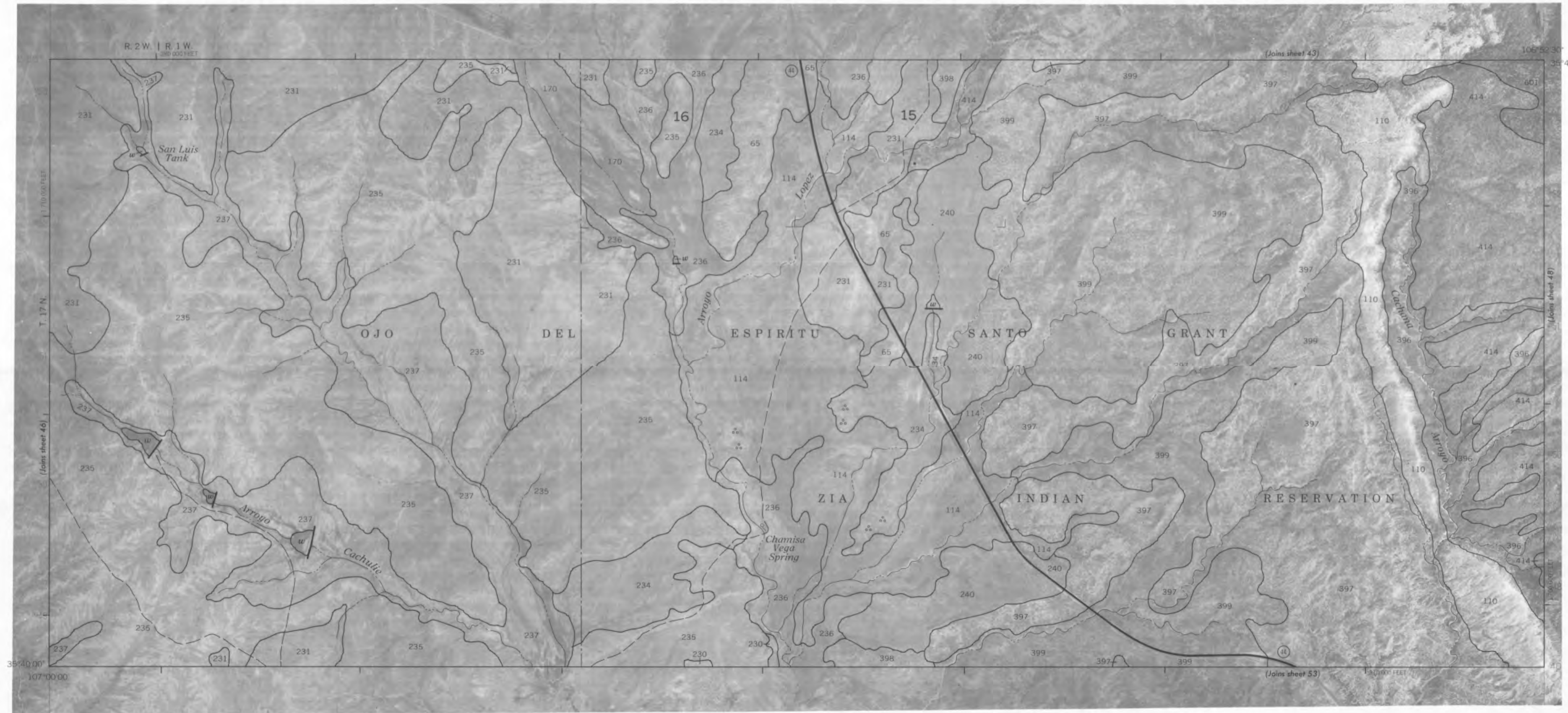
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974 - 1977 aerial photography. Coordinate grid ticks and land division corners if shown, are approximately positioned.



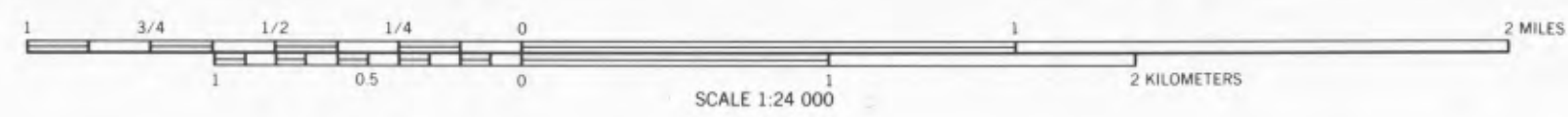
AS46



This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U. S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners if shown, are approximately positioned.



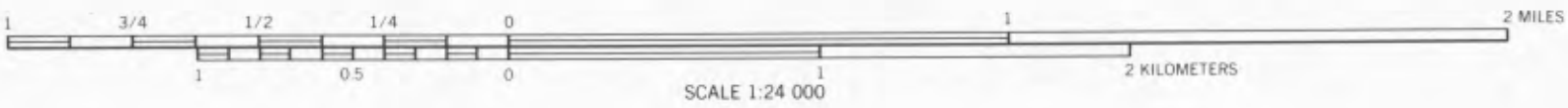
AS47



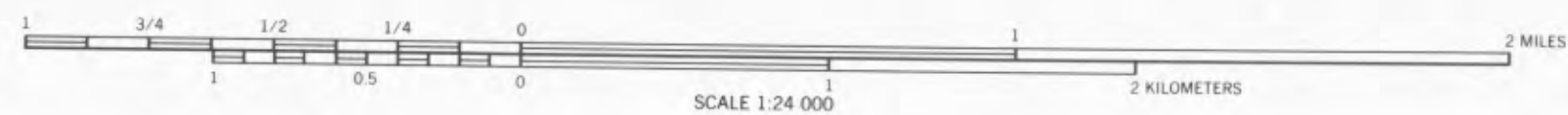
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

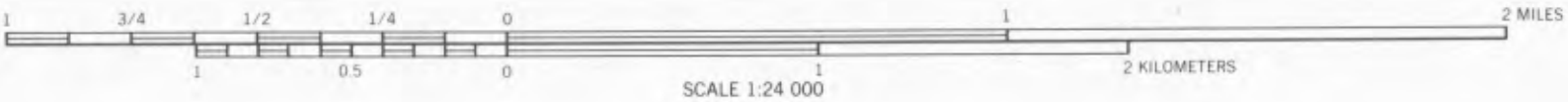


AS48

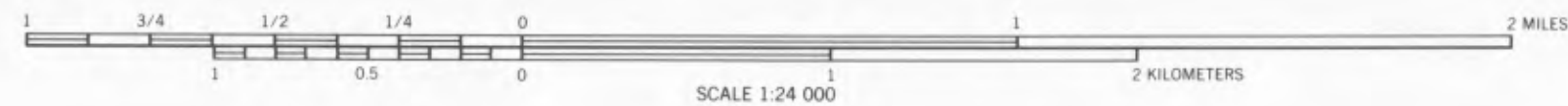


This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corner, if shown, are approximately positioned.





This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners if shown, are approximately positioned.



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974 - 1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

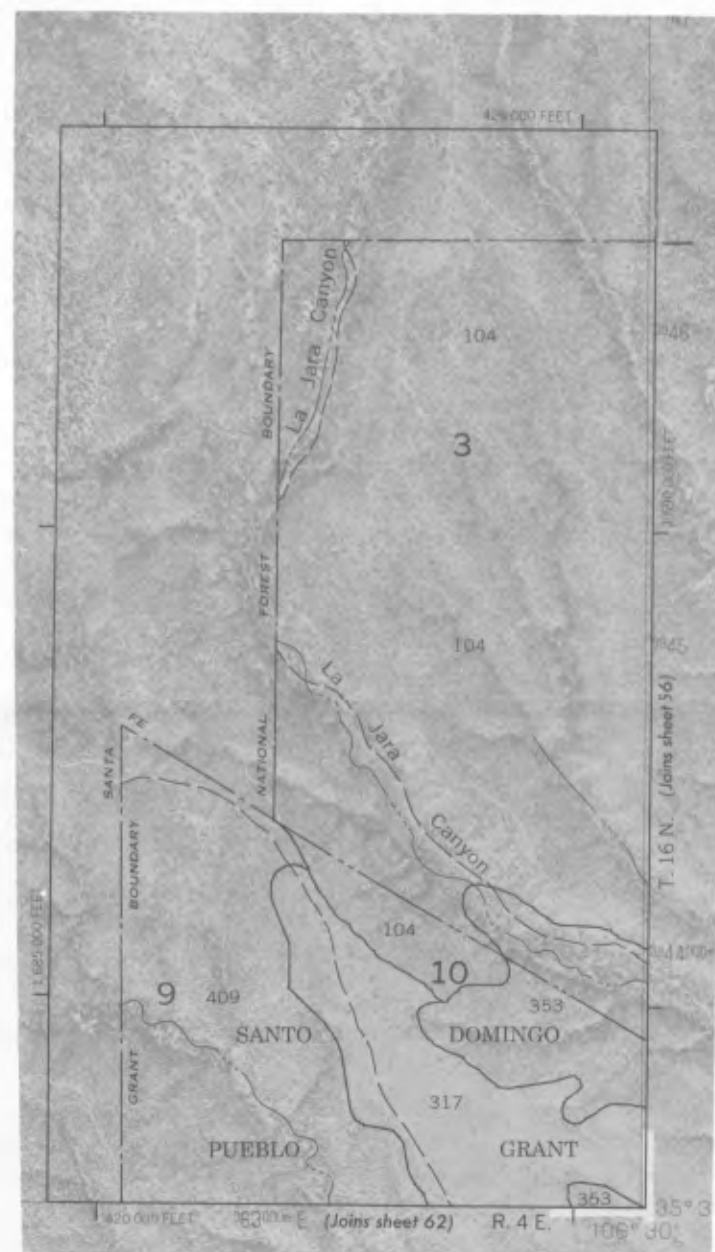


107°07'30"
35°40'00"

R. 3 W. | R. 2 W.

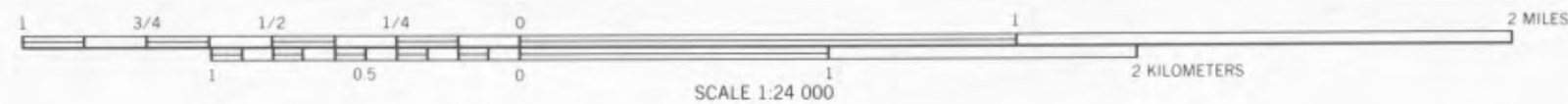
(Joins sheet 46)

275,000 FEET



SCALE 1:24 000

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET



SCALE 1:24 000

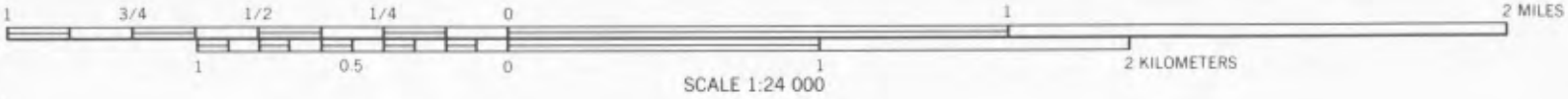
2 KILOMETERS

Orthophotograph prepared from 1:60,000 scale
aerial photograph taken June 25, 1975

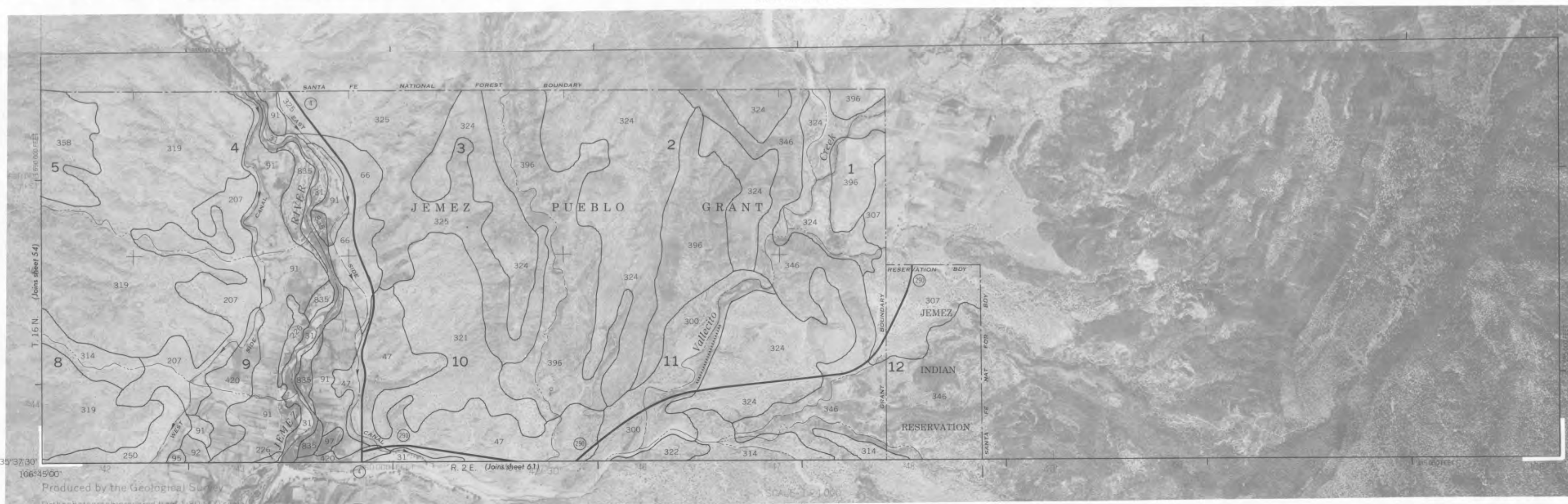


Produced by the Geological Survey
Orthophotomaps prepared from 1:80,000 scale
aerial photographs taken June 27, 1976

AS54



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



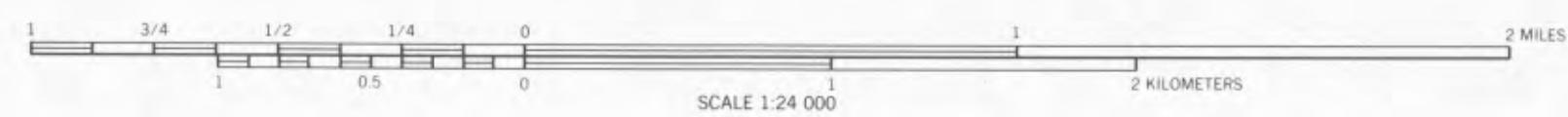
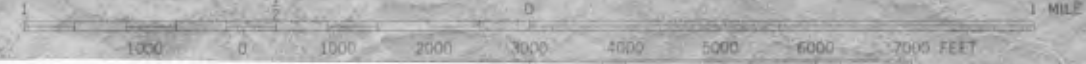
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

SOIL SURVEY OF SANDOVAL COUNTY AREA, NEW MEXICO, LOS ALAMOS COUNTY AND PART OF SANDOVAL COUNTY — SHEET NUMBER 56



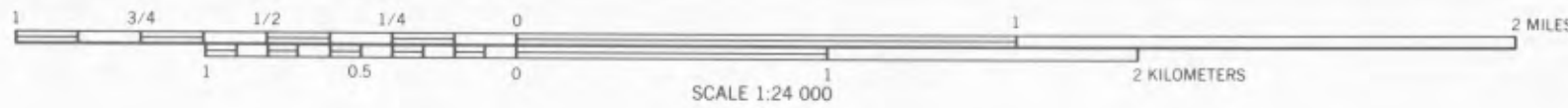
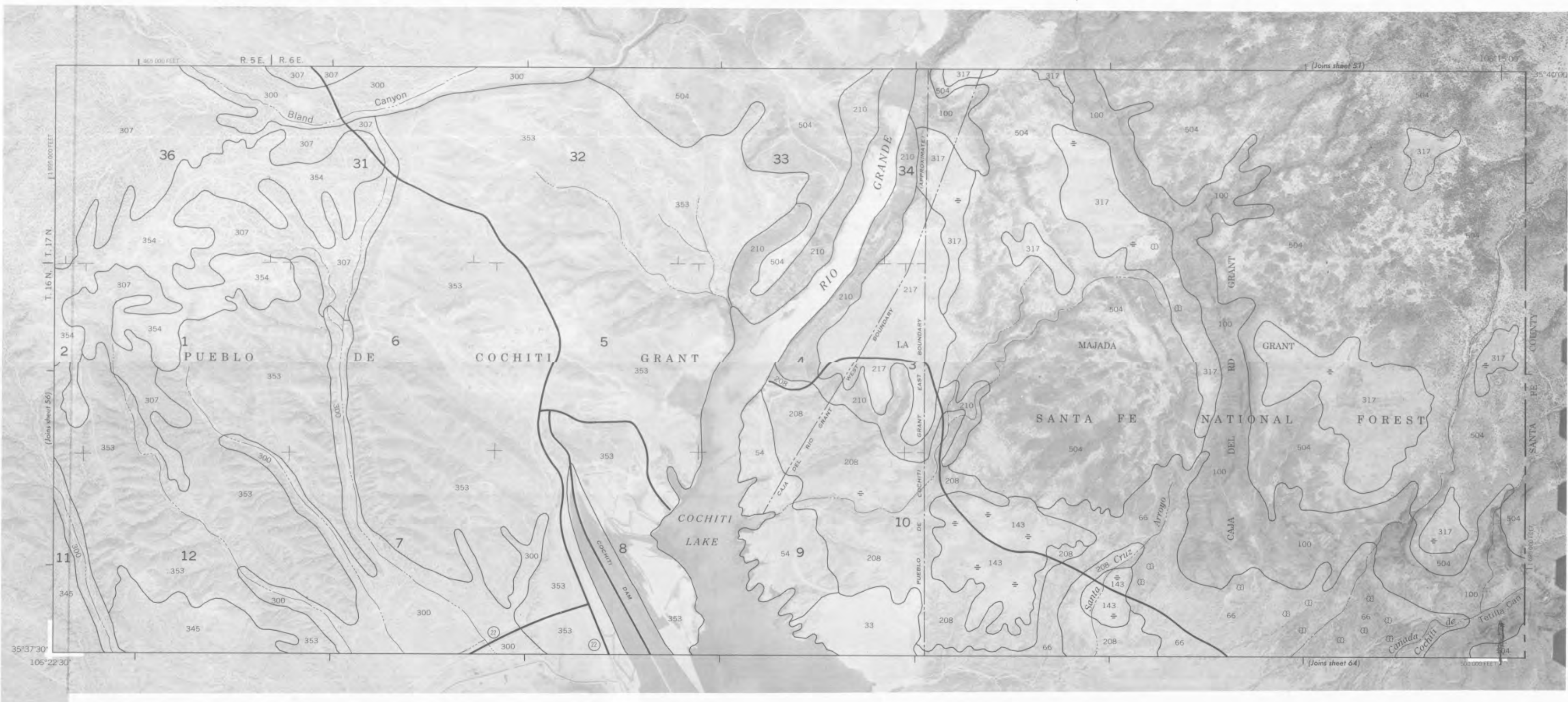
Produced by the Geological Survey
Orthophotograph prepared from 1:80,000 scale
aerial photographs taken June 26, 1975

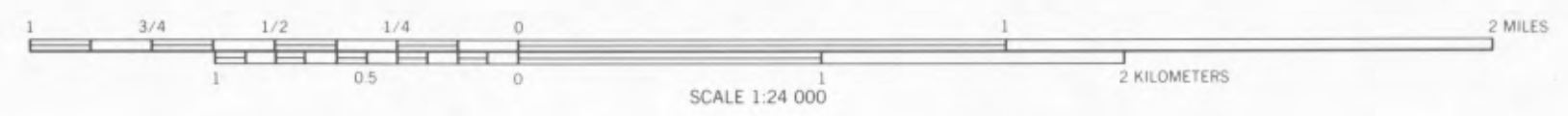
SCALE 1:24 000



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974, 1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

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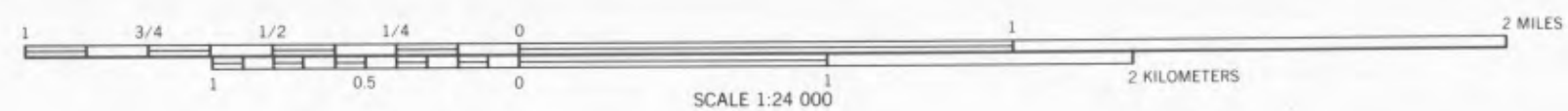




This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

[illegible]

AS59

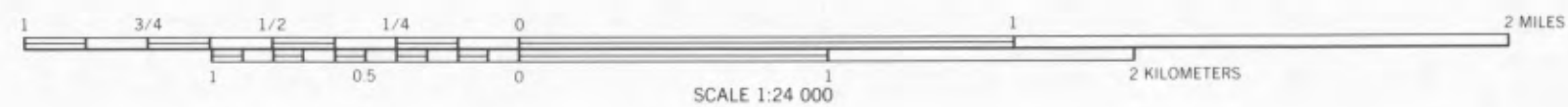


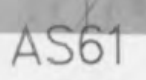
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

NEW MEXICO



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.





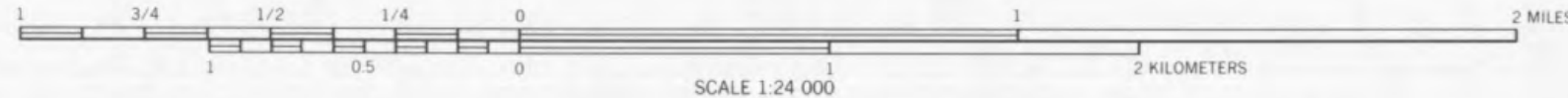
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



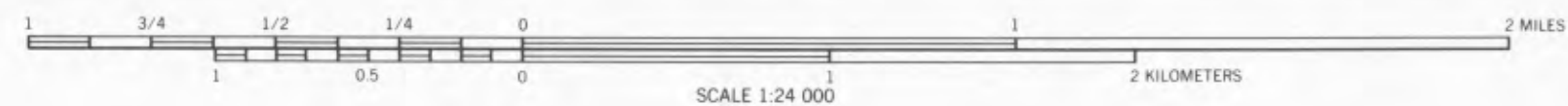
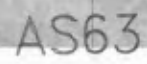
106°37'30" W
35°37'30" N

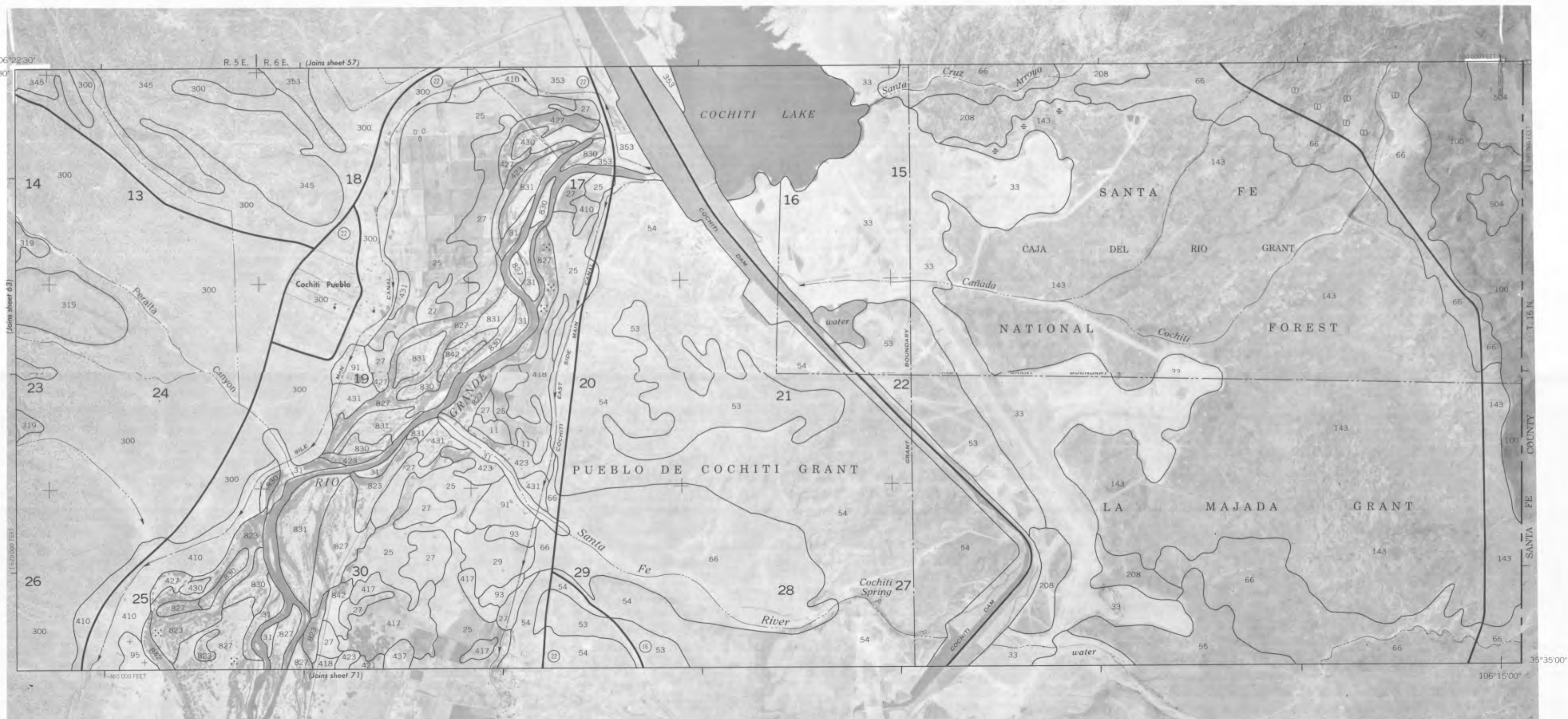


AS62

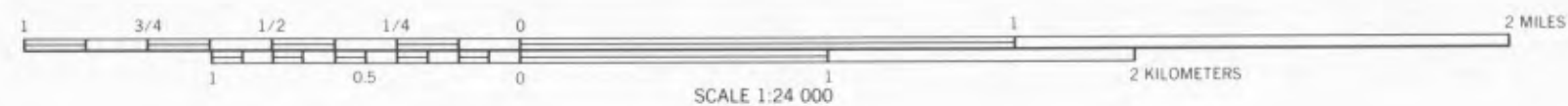


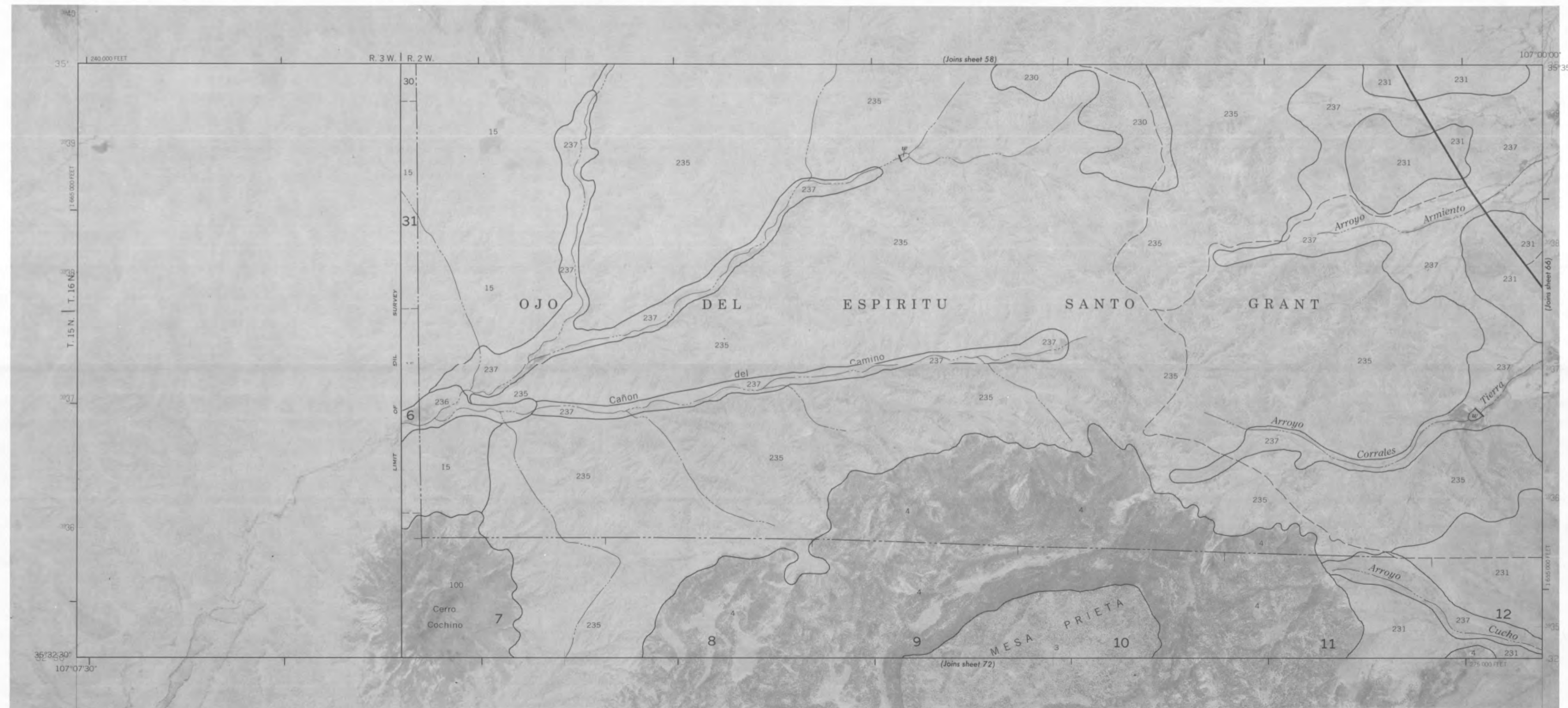
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



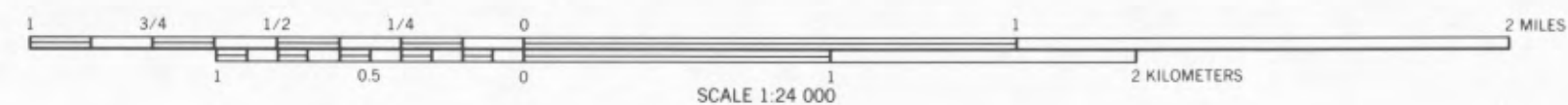
$106^{\circ}22'30''$
 $35^{\circ}37'30''$ 

This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.





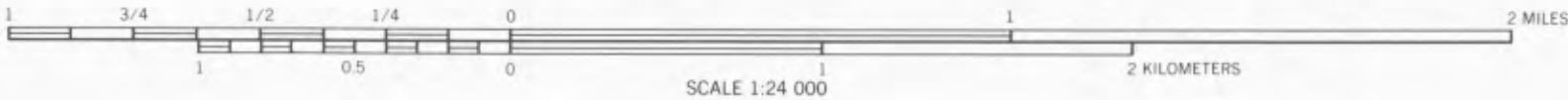
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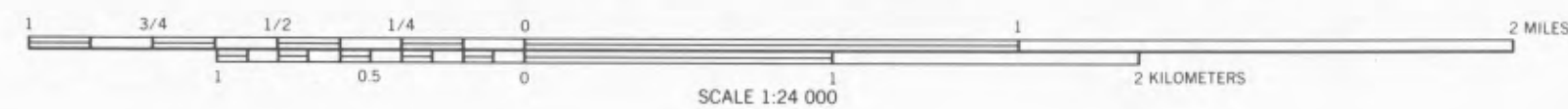
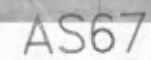


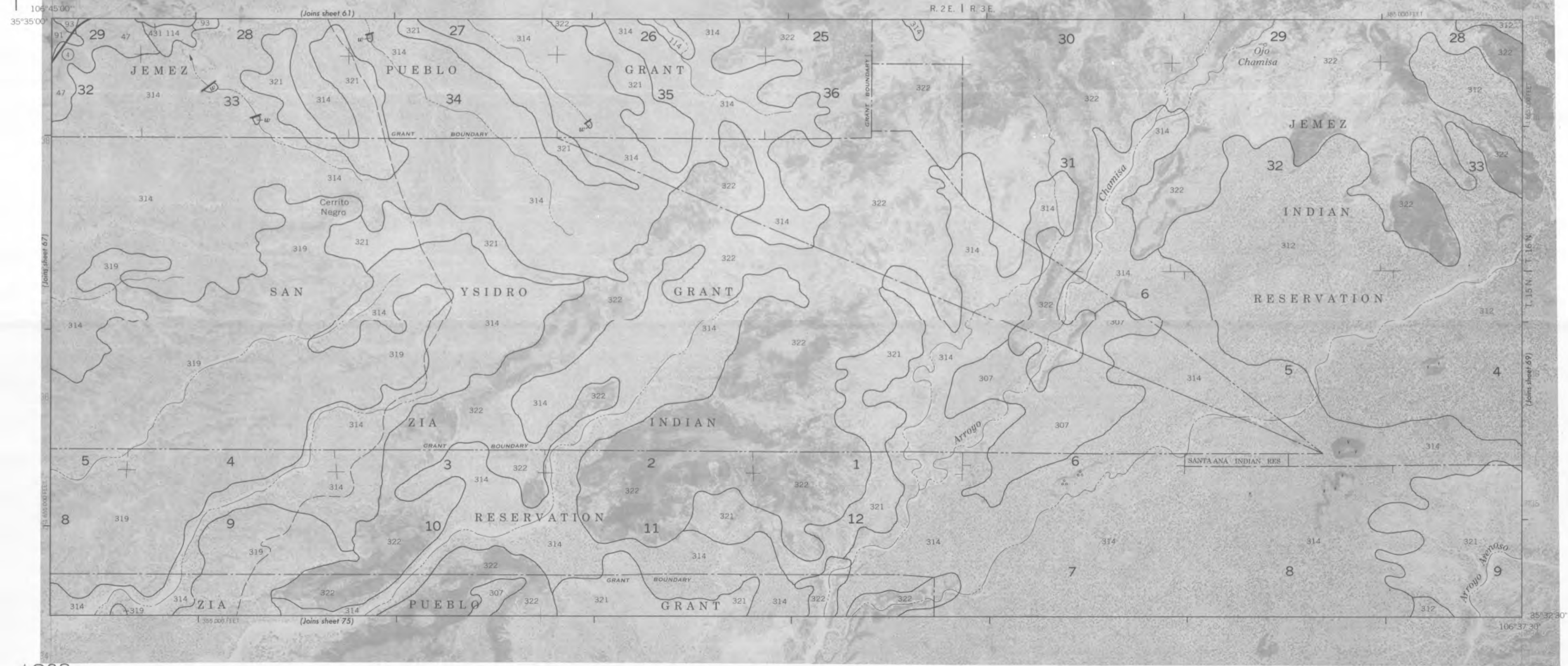


This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

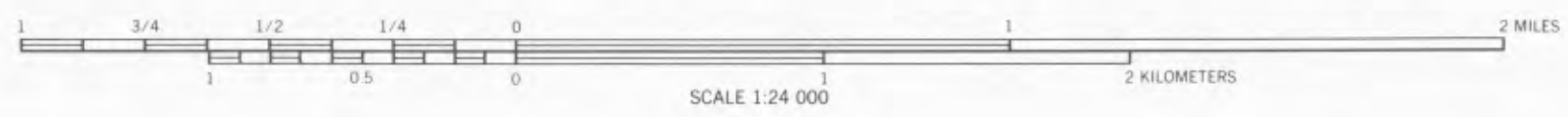
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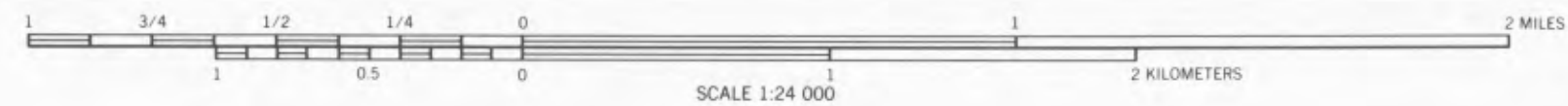




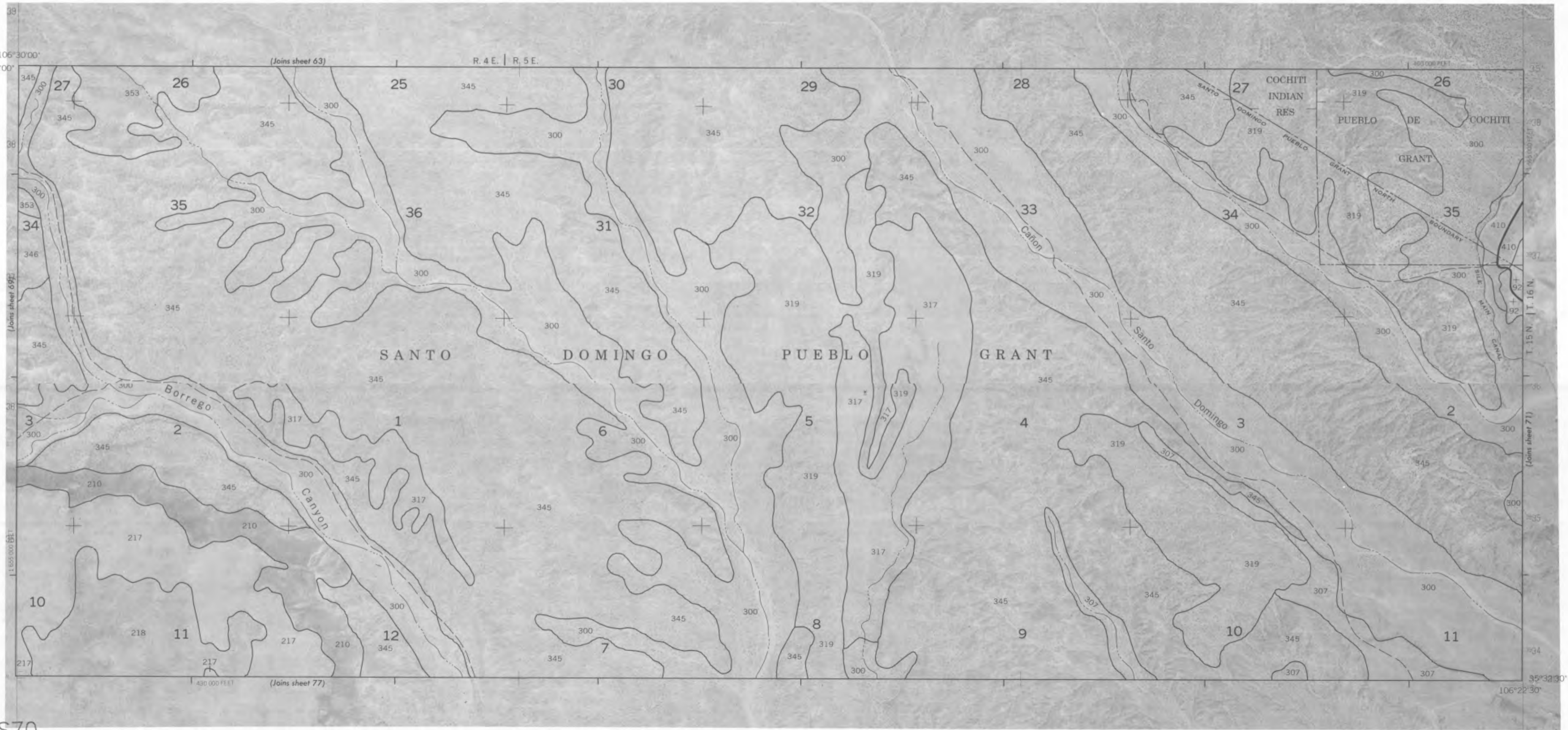
AS68



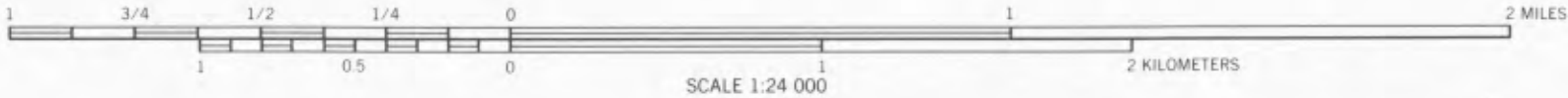
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

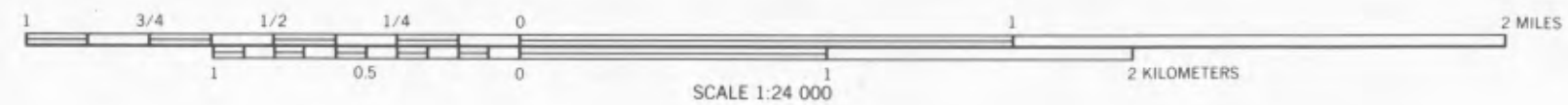


This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974 - 1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



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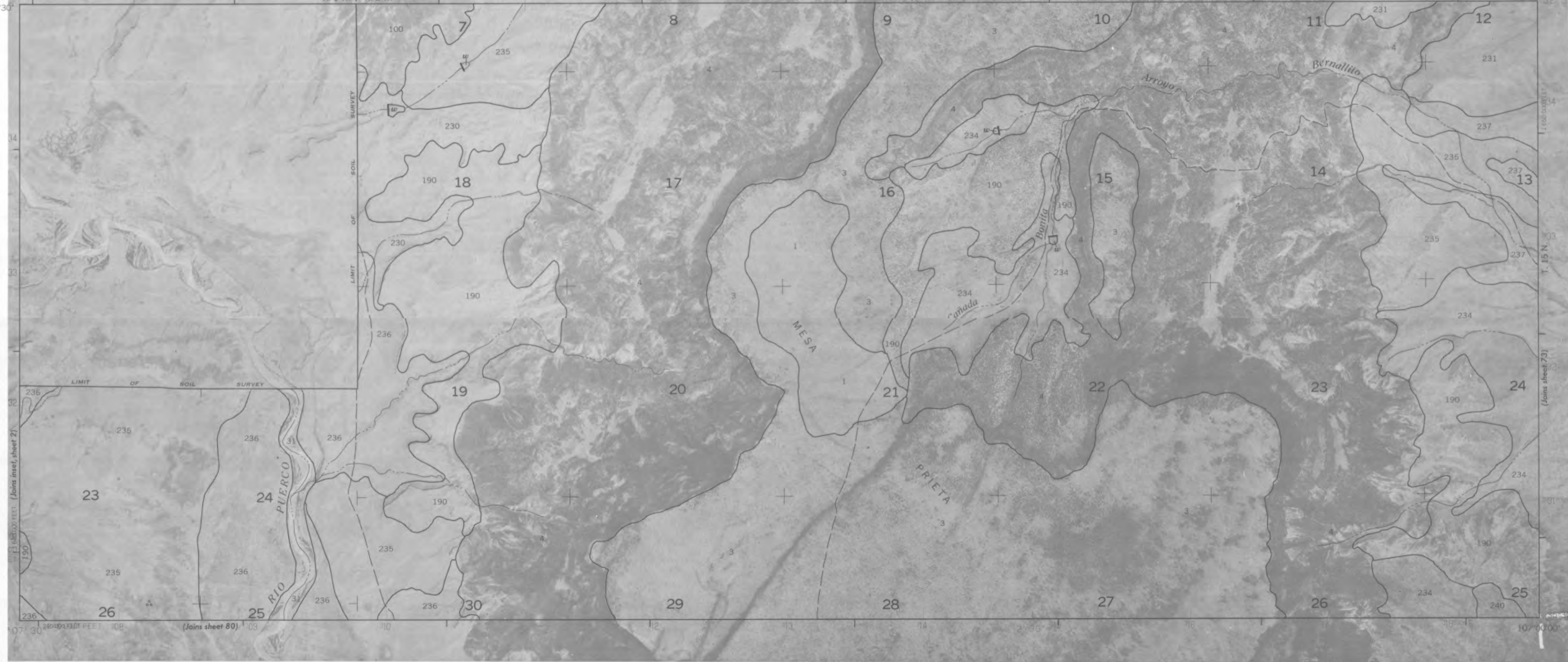


107°07'30"
35°32'30"

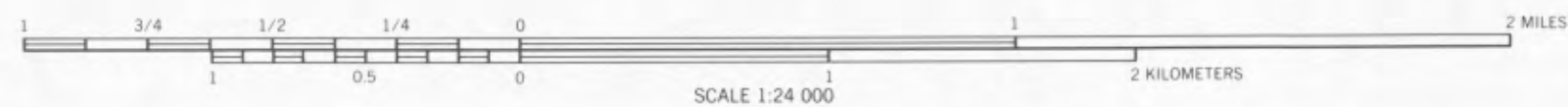
R. 3 W. R. 2 W.

(Joins sheet 65)

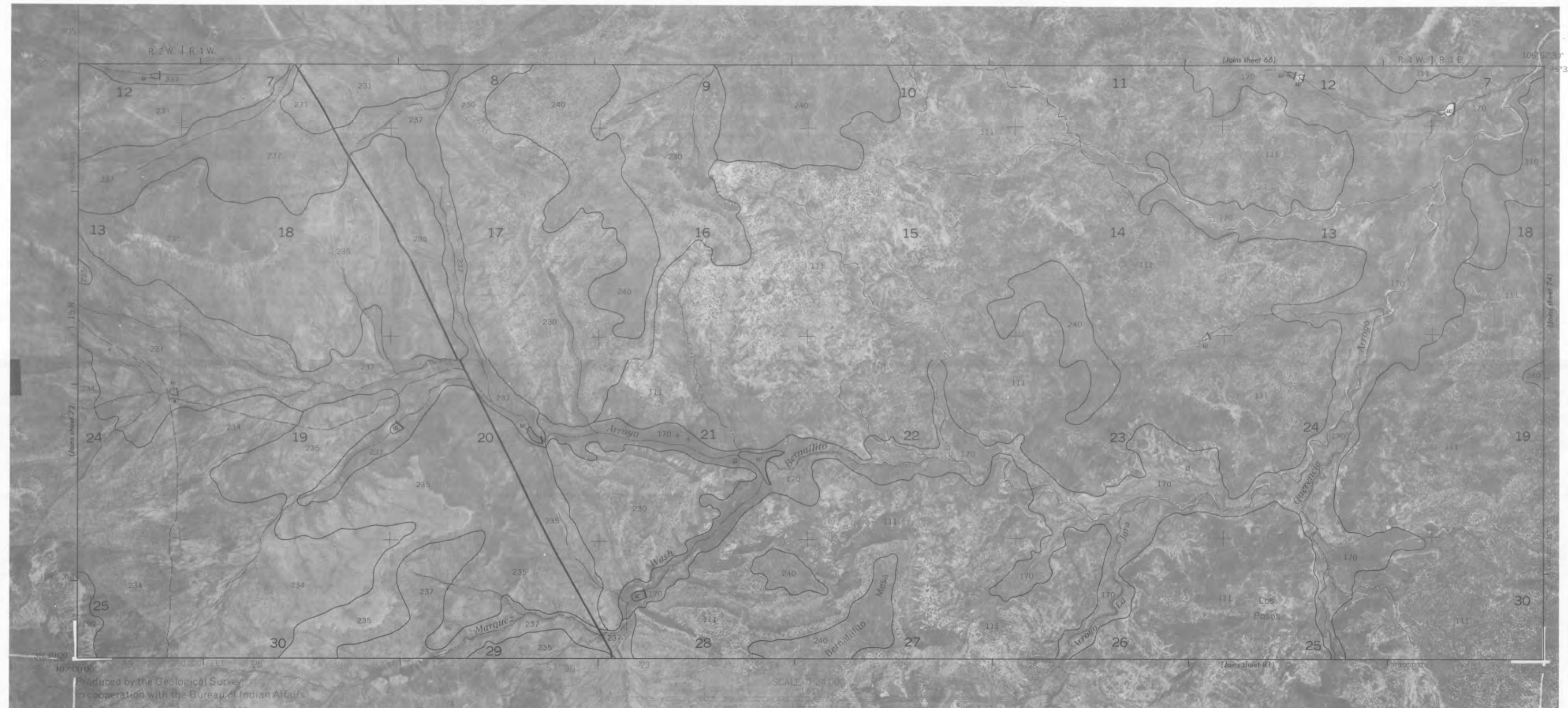
225 000 FEET



This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U. S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corner, if shown, are approximately positioned.

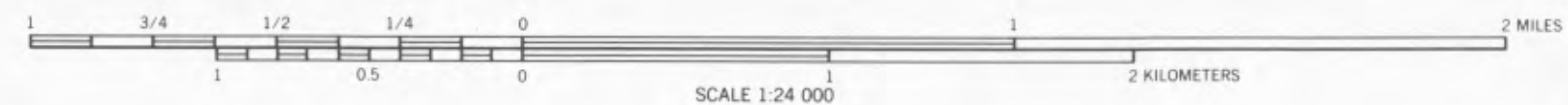


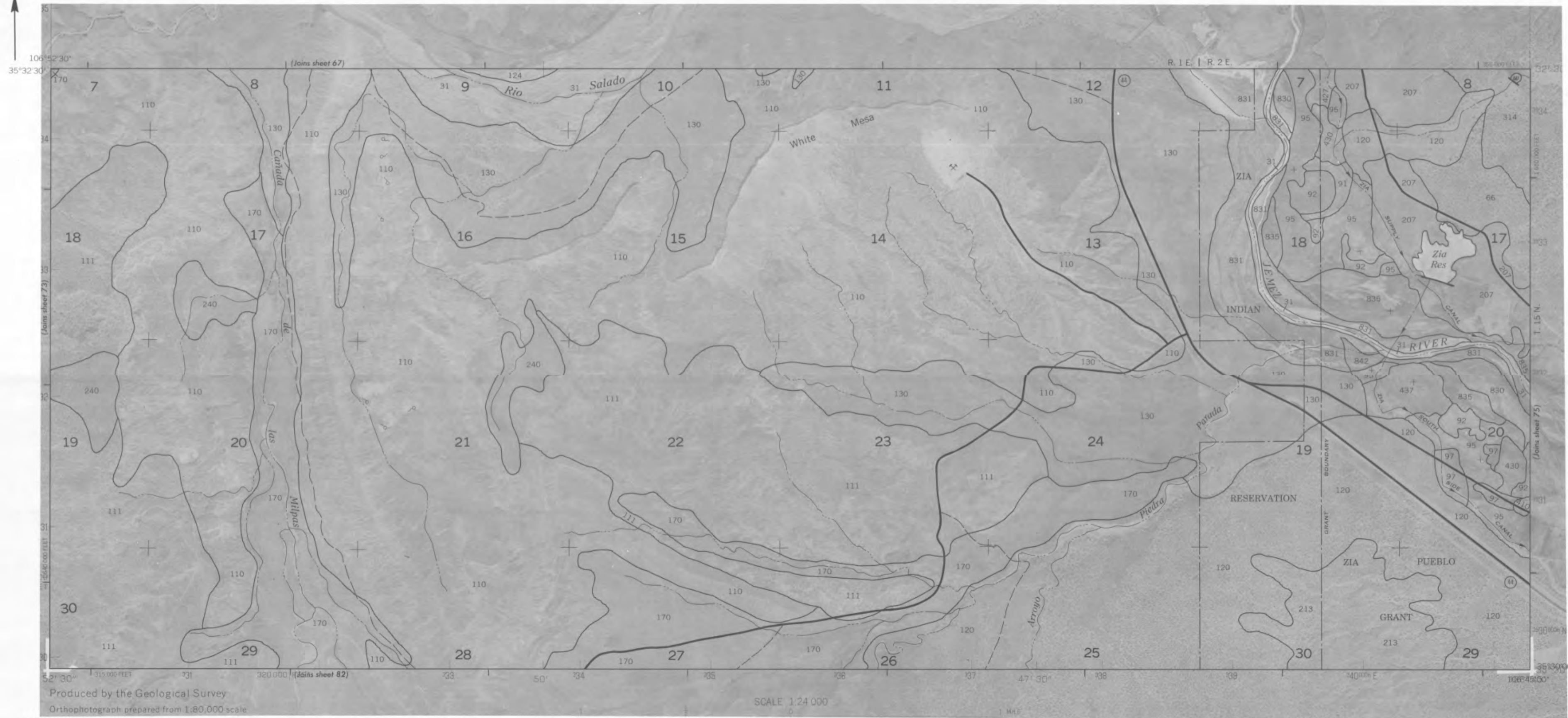
SCALE 1:24 000



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

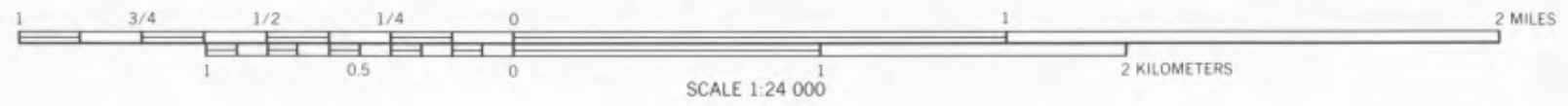
AS/3





This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners if shown, are approximately positioned.

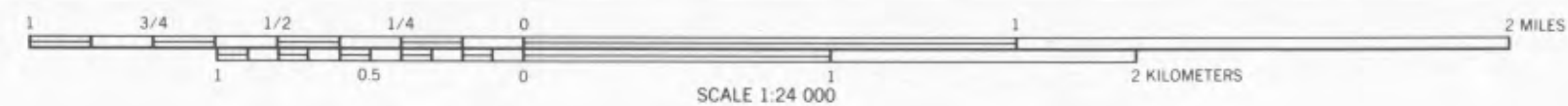
AS74



Produced by the Geological Survey
 Orthophotograph prepared from 1:80,000 scale
 Published by the Geological Survey, 1975

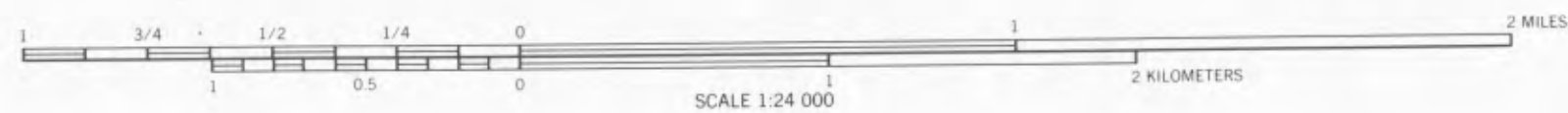
SCALE 1:24,000

AS75

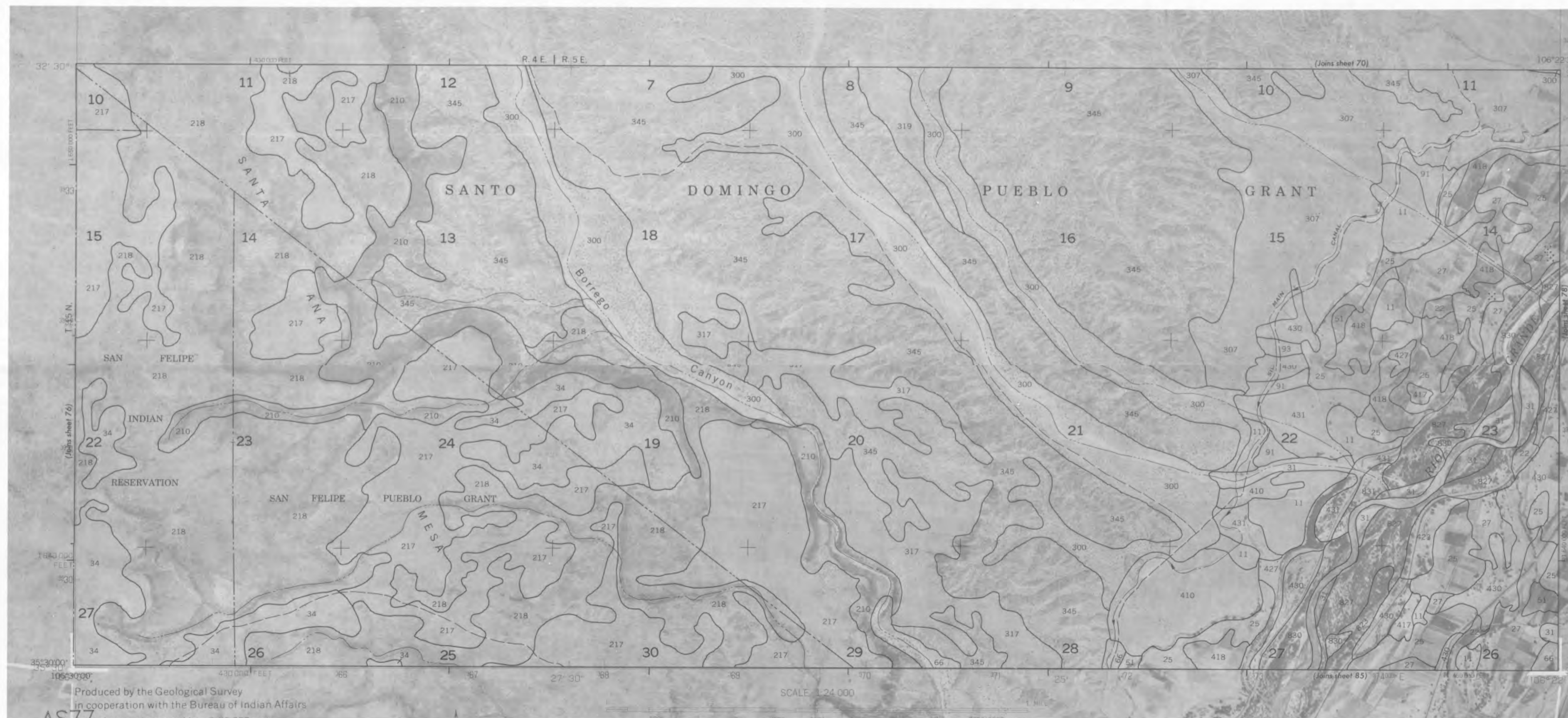




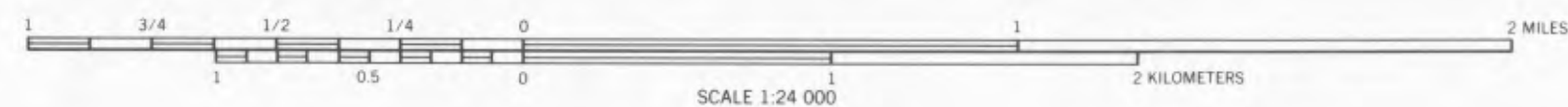
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



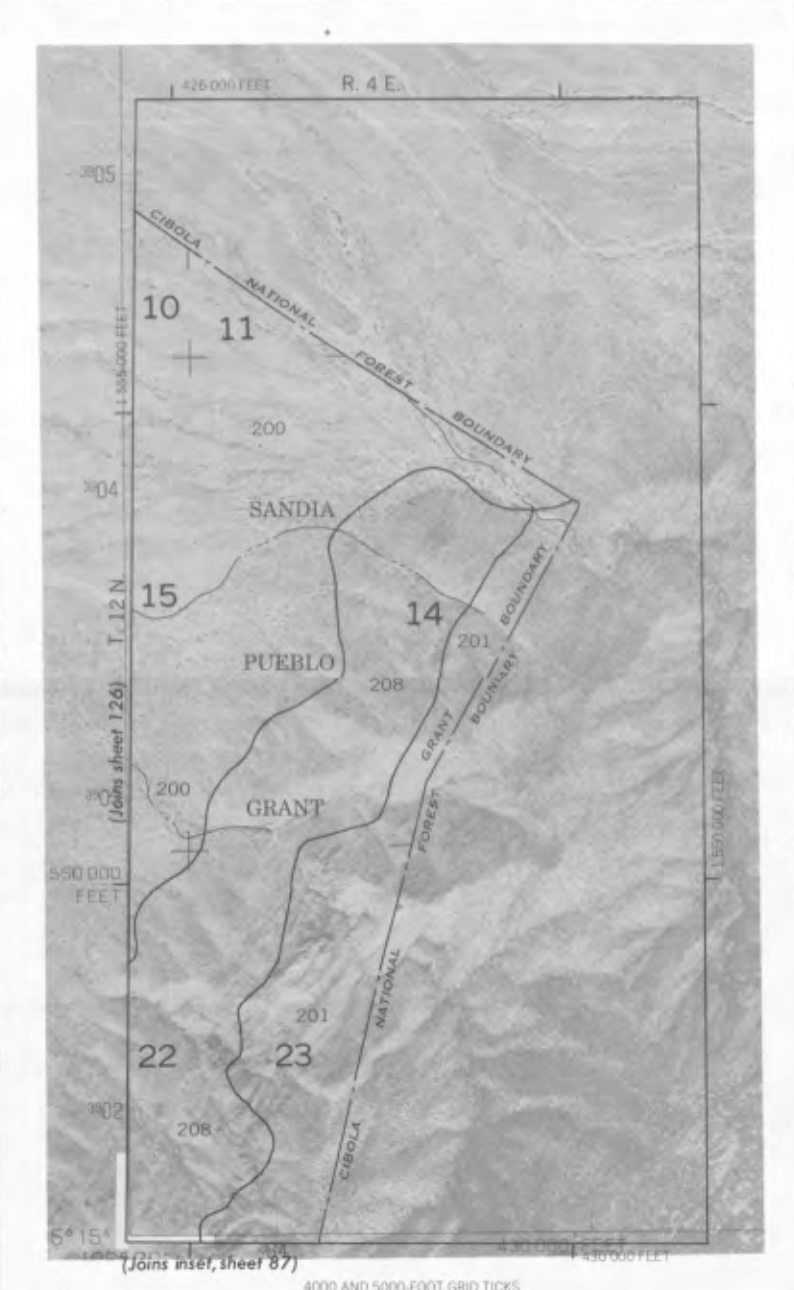
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, fishown, are approximately positioned.



AS77

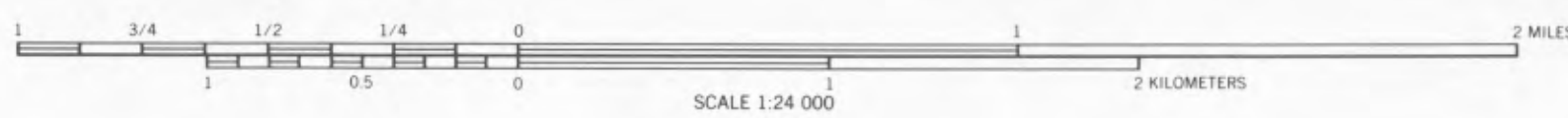


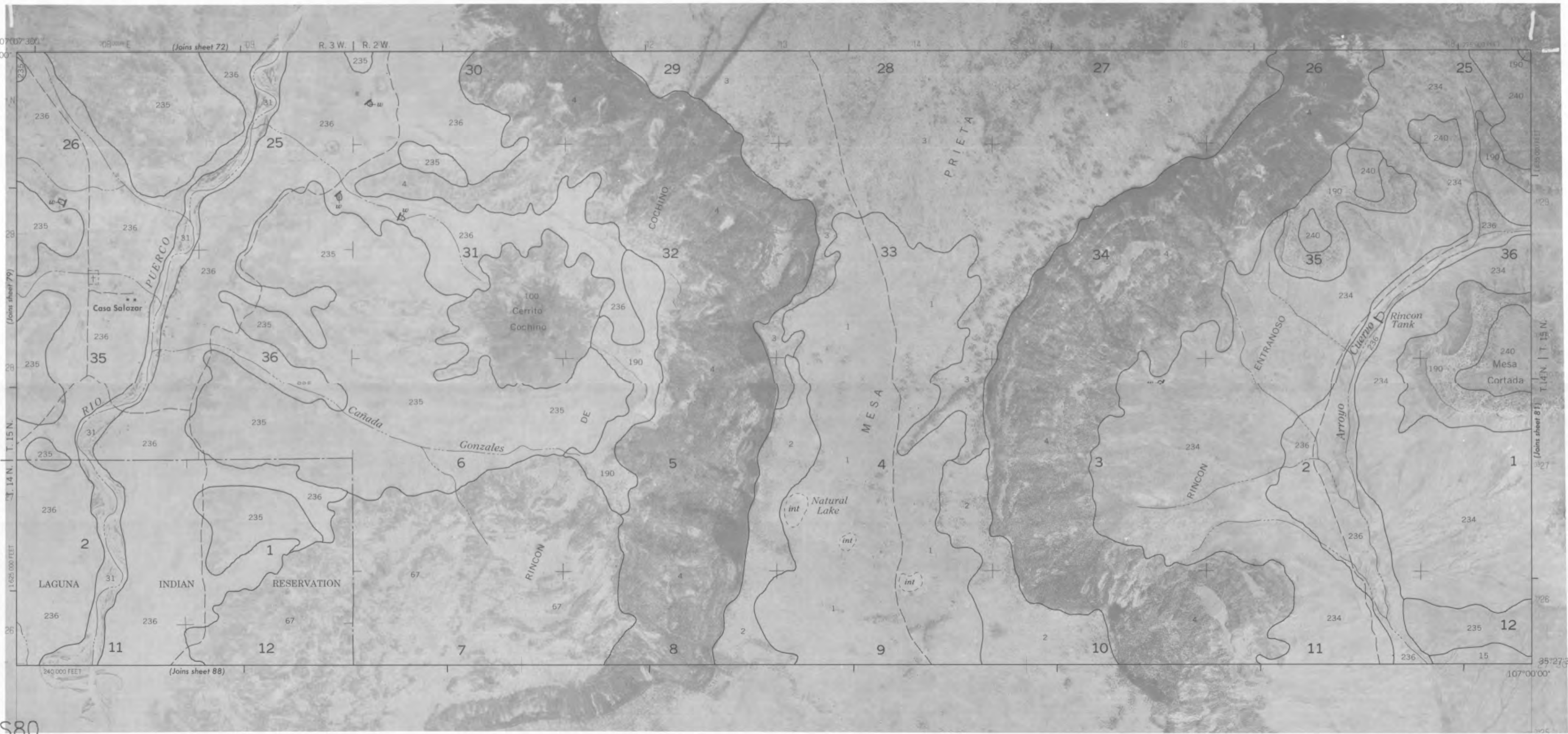




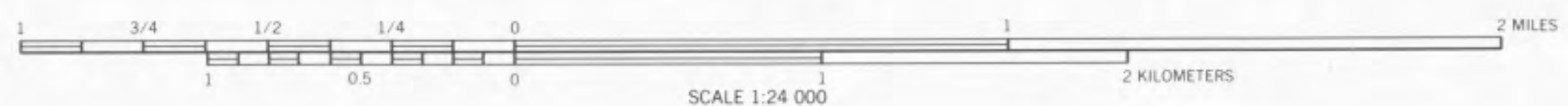
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

AS79

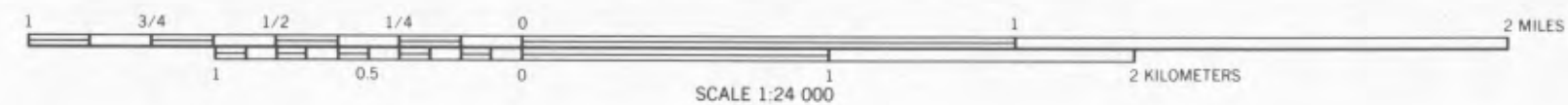
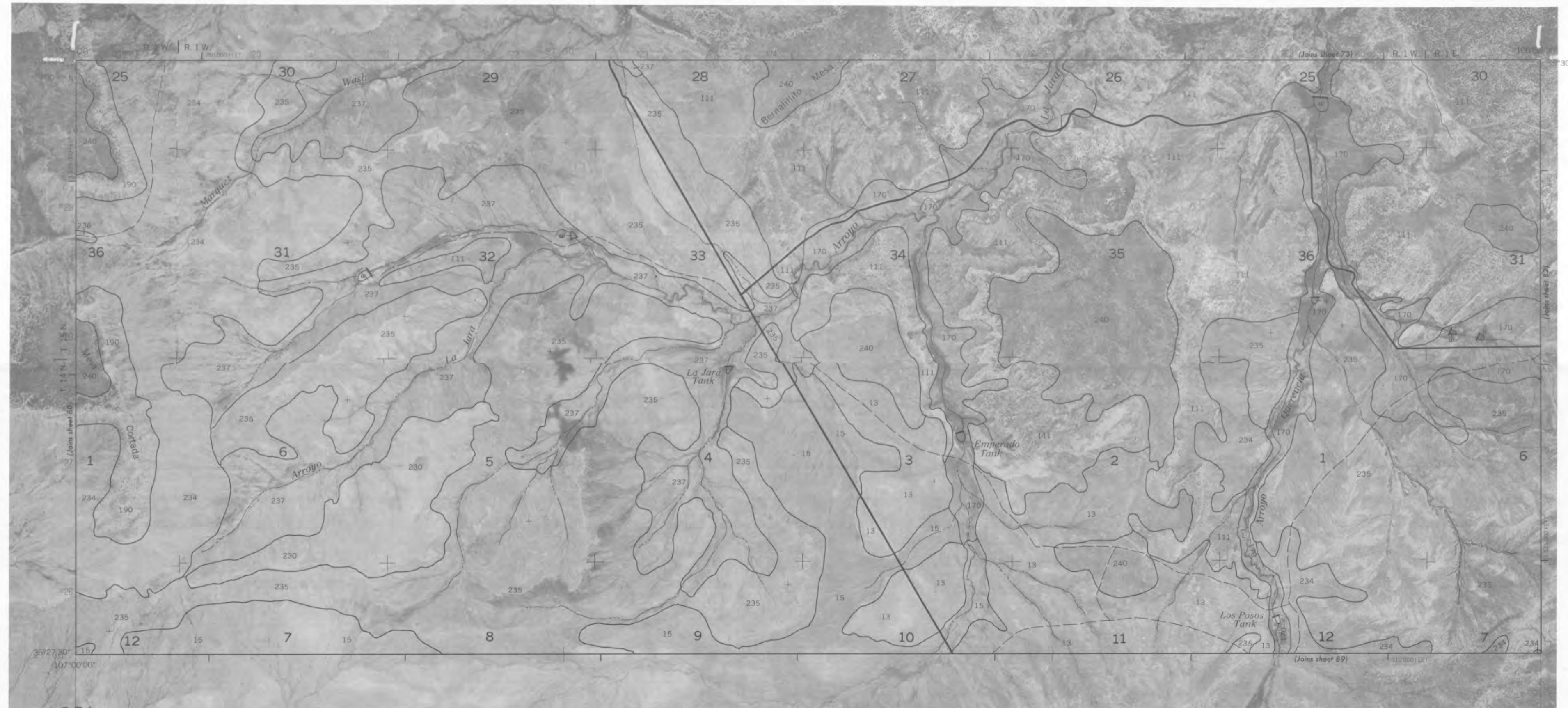




AS80



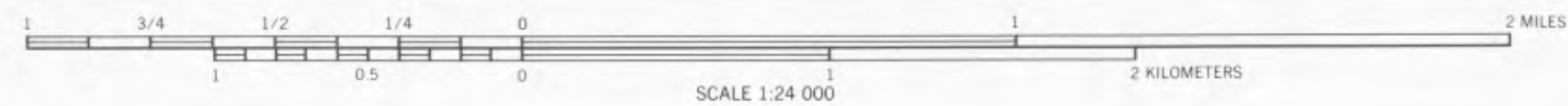
This soil survey map was compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U. S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corner, if shown, are approximately positioned.

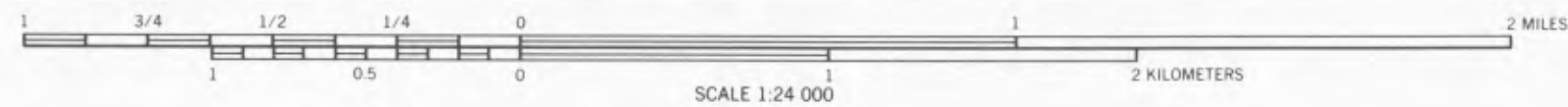




This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974 - 1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

AS82

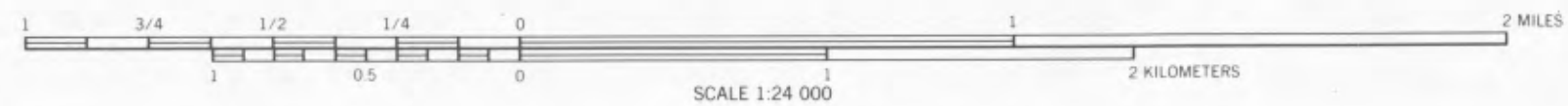


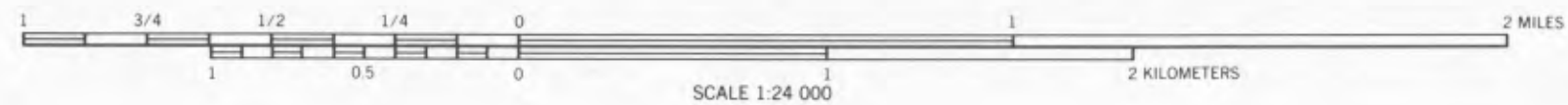


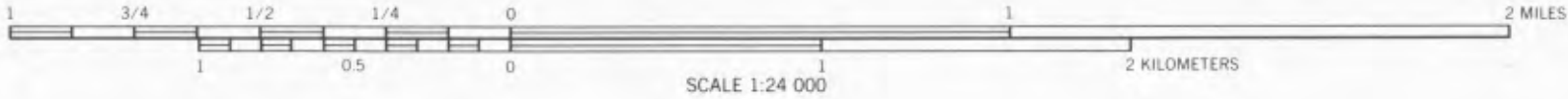
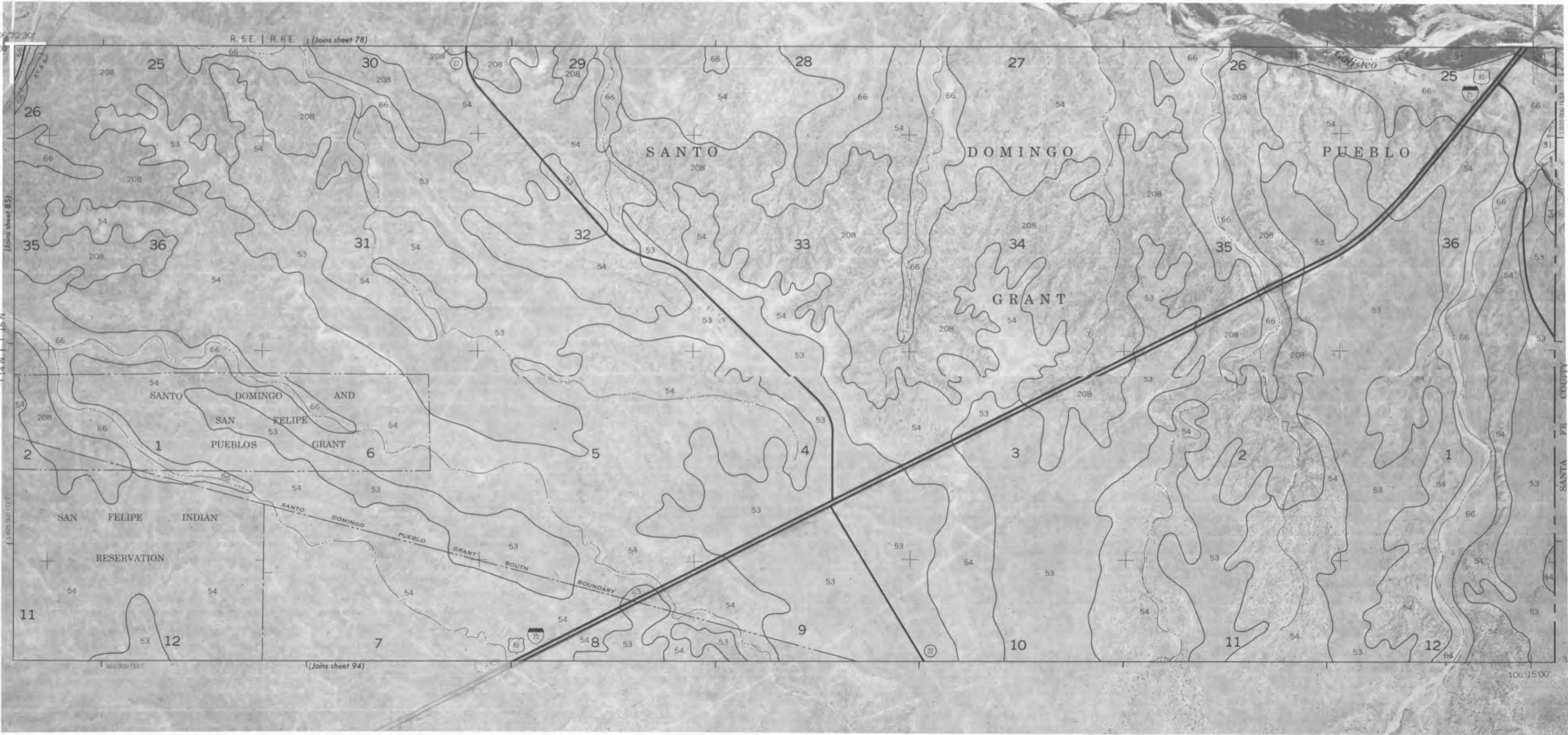
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974 - 1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



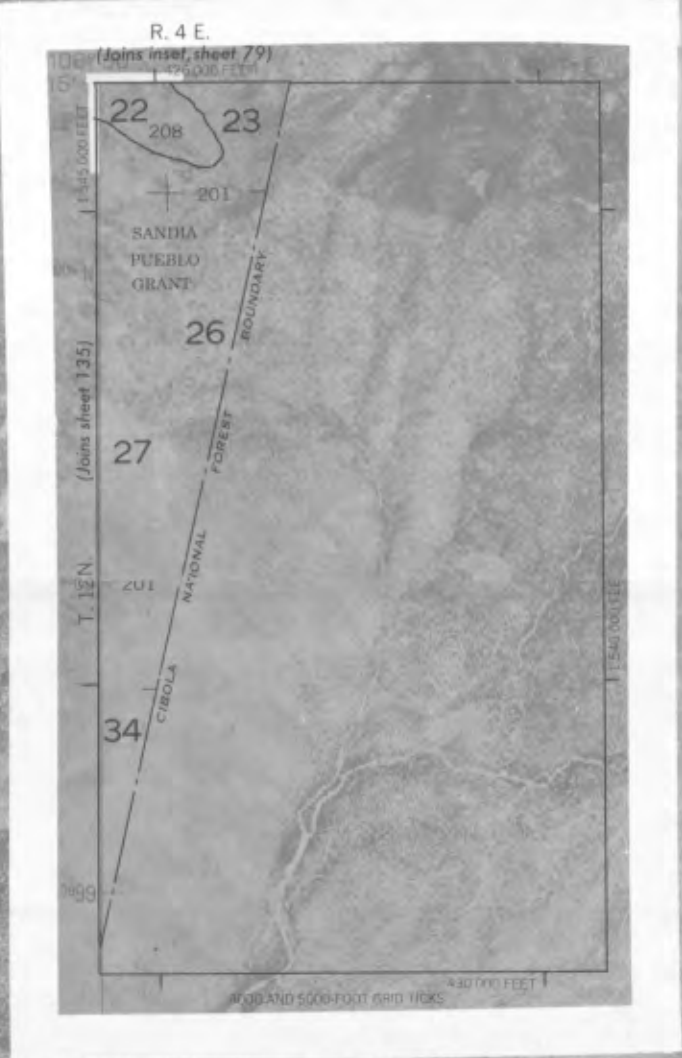
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974 - 1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



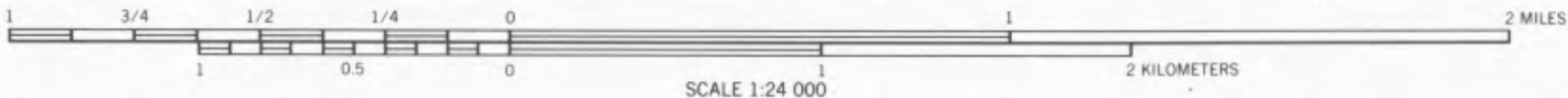




This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



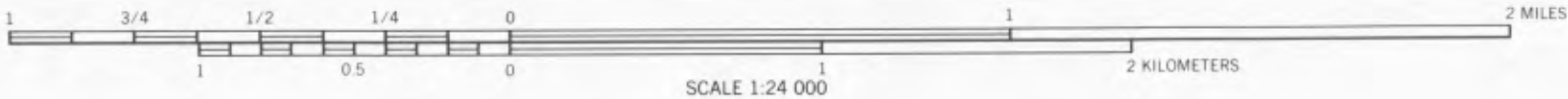
AS87



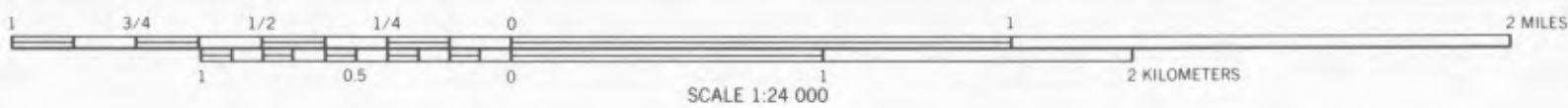
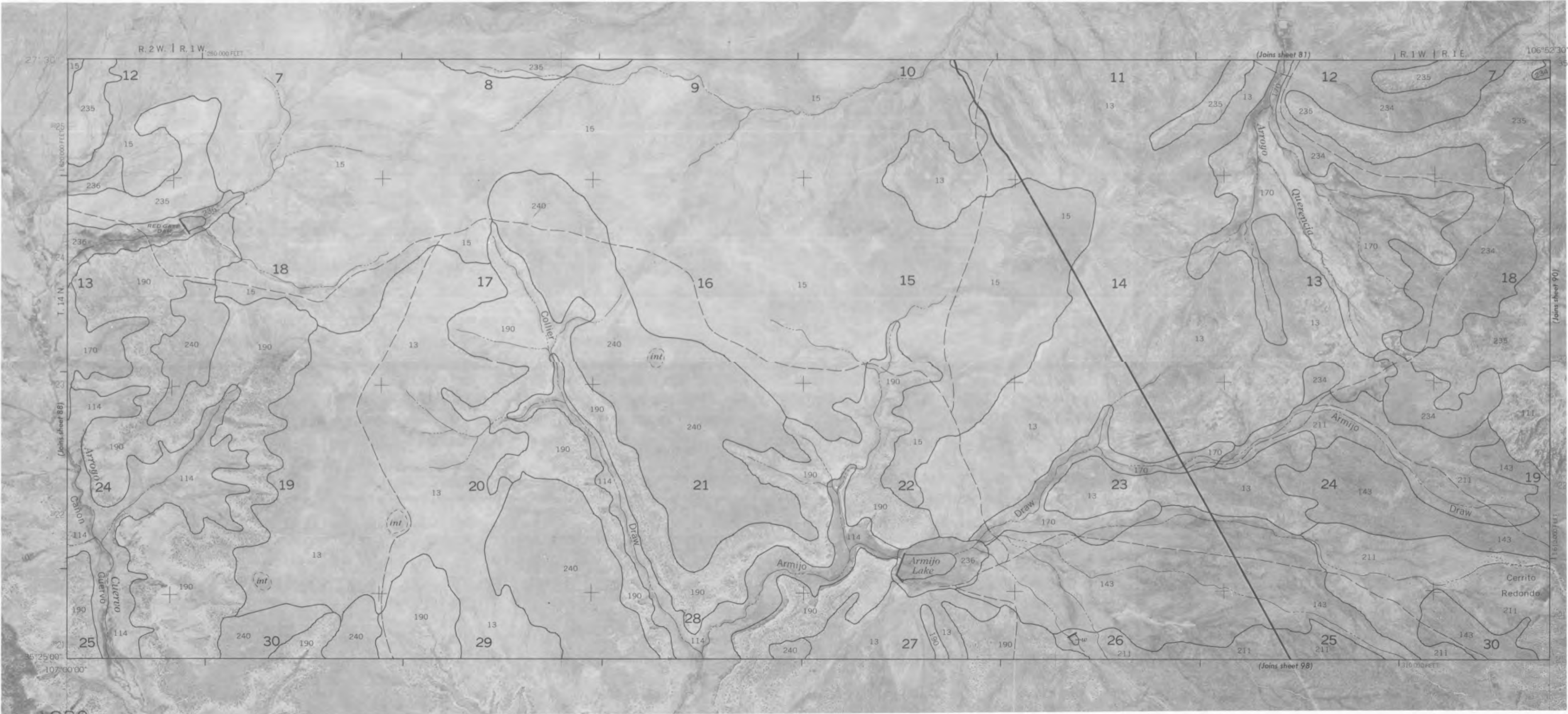
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



AS88



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners if shown, are approximately positioned.



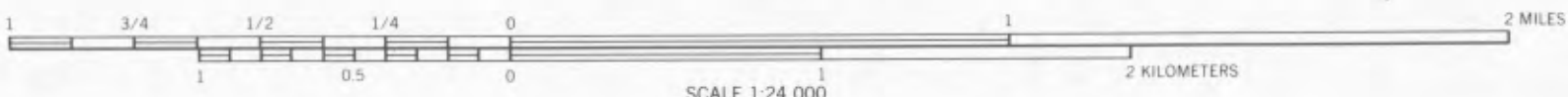
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

90

N



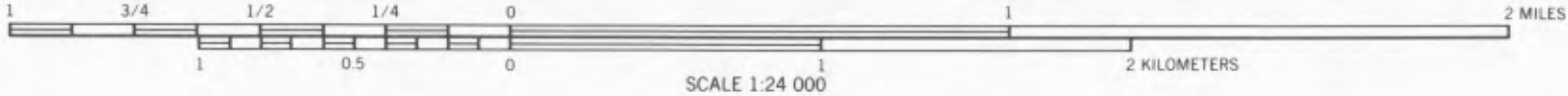
AS90



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



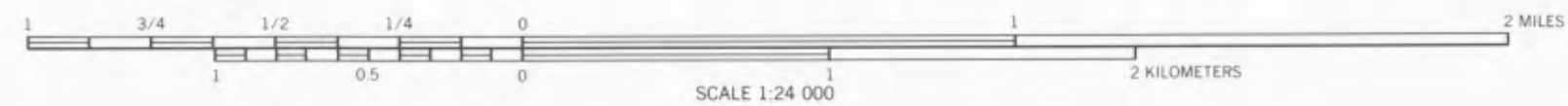
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

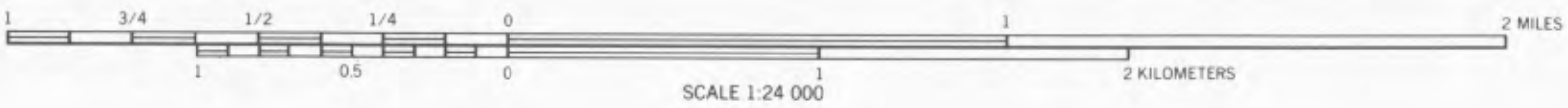


Z

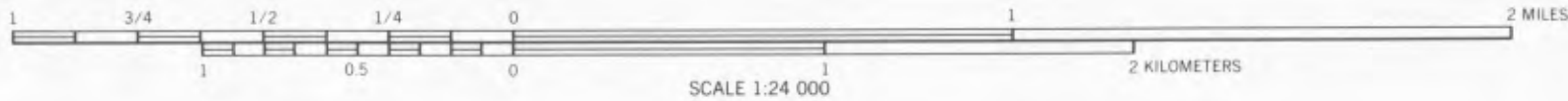


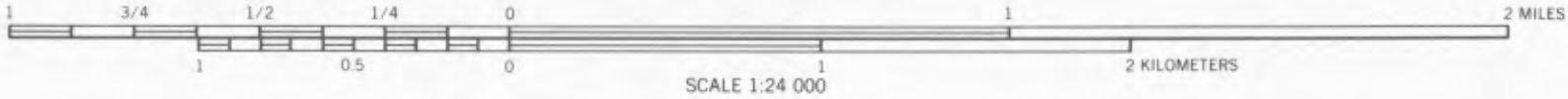
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974 - 1977 aerial photography. Coordinate grid ticks and land division corner, if shown, are approximately positioned.



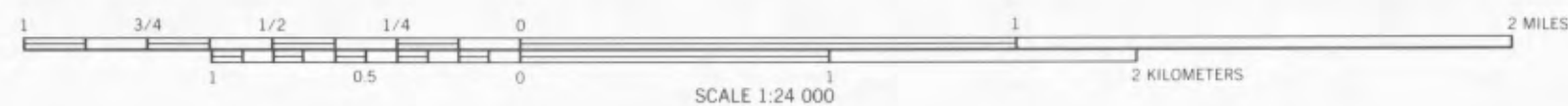
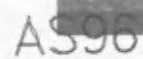


This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.





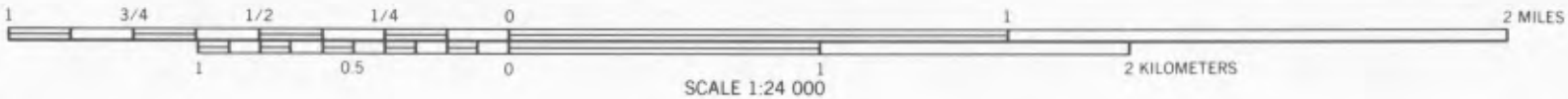
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974 - 1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



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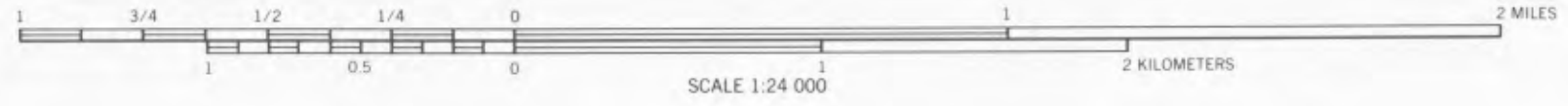


This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

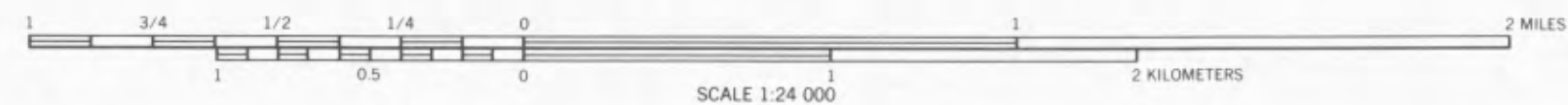




A598

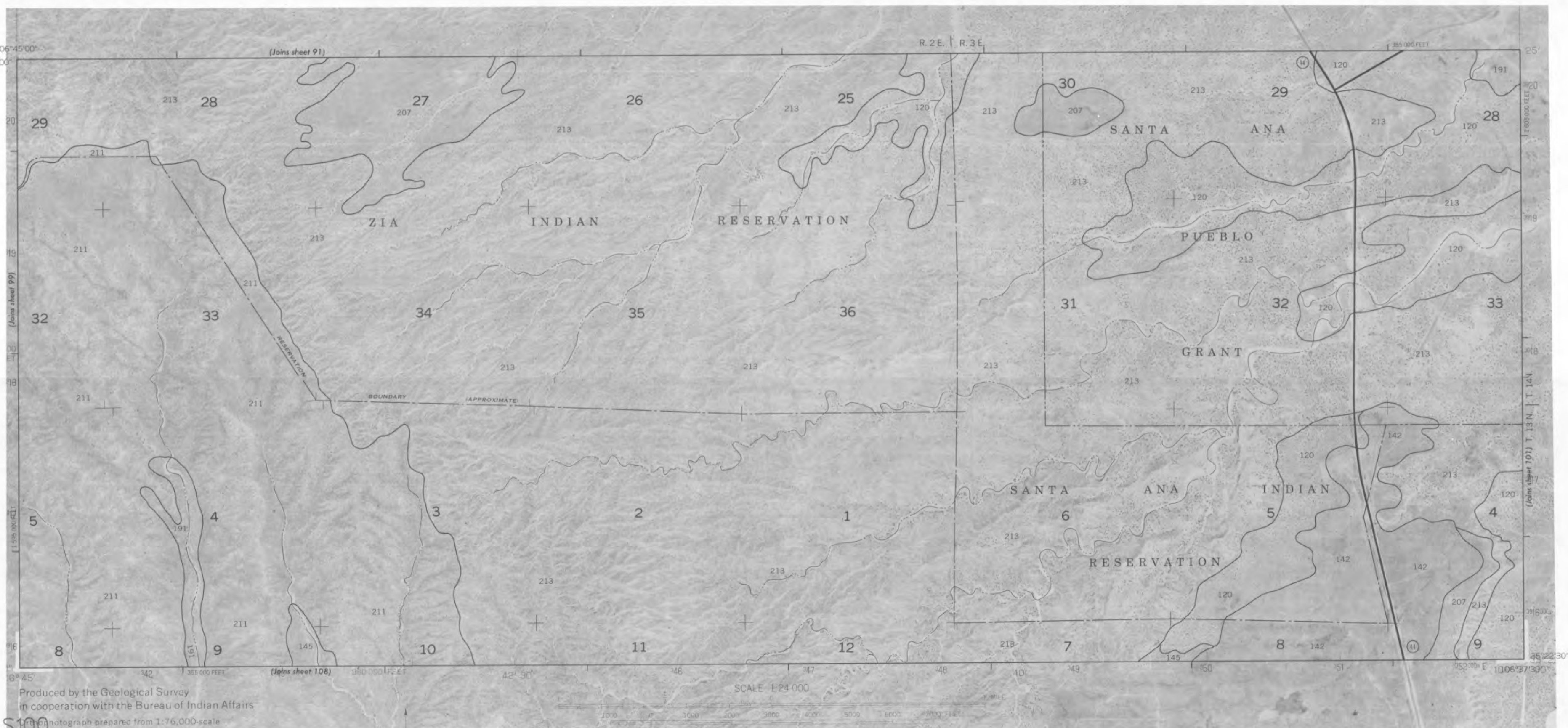


This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners if shown, are approximately positioned.

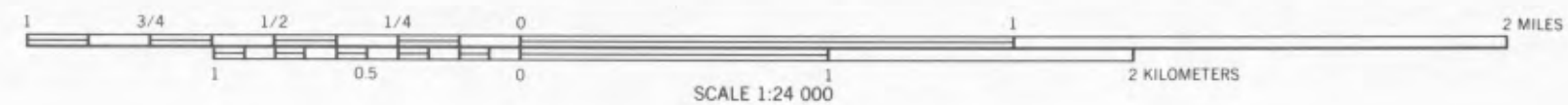


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AS99
and map prepared from 1:50,000
photographs taken 1974-1975

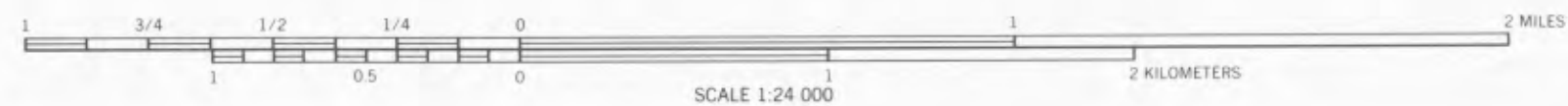


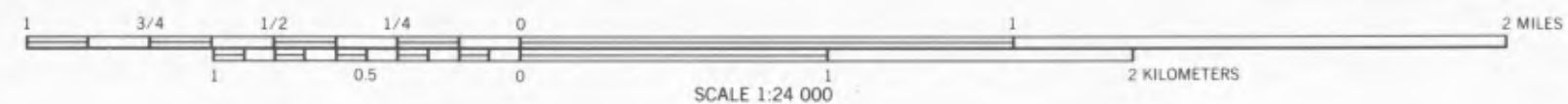
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AS101

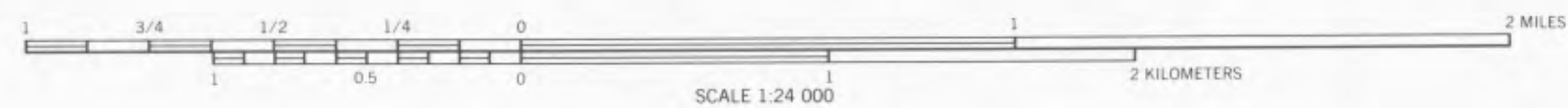






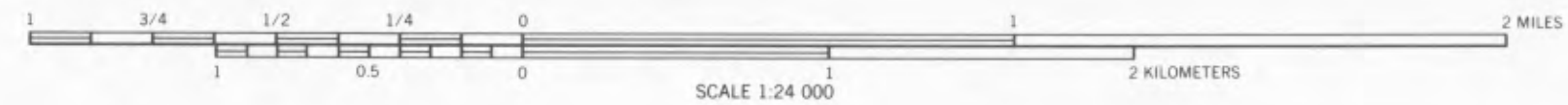
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AS104



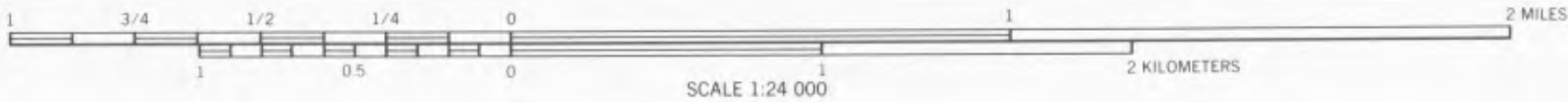


AS105



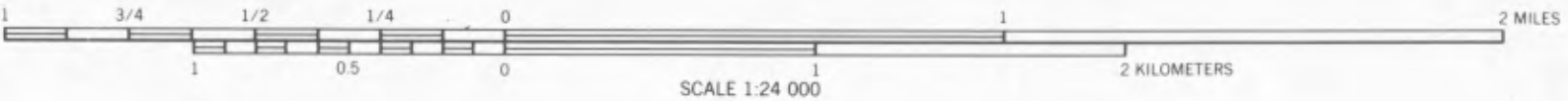


AS106



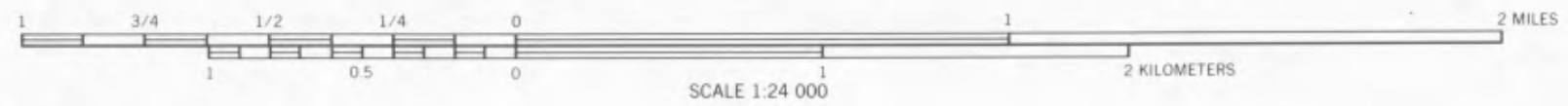


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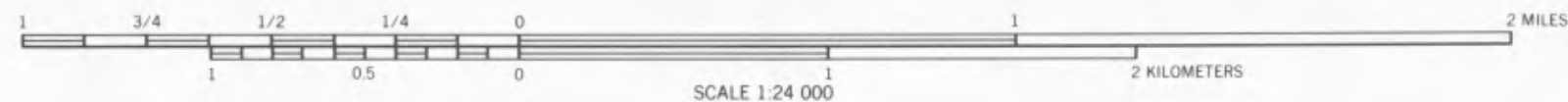




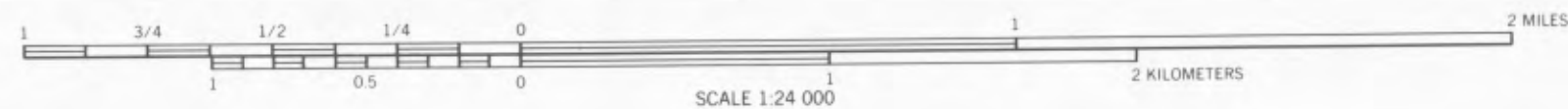
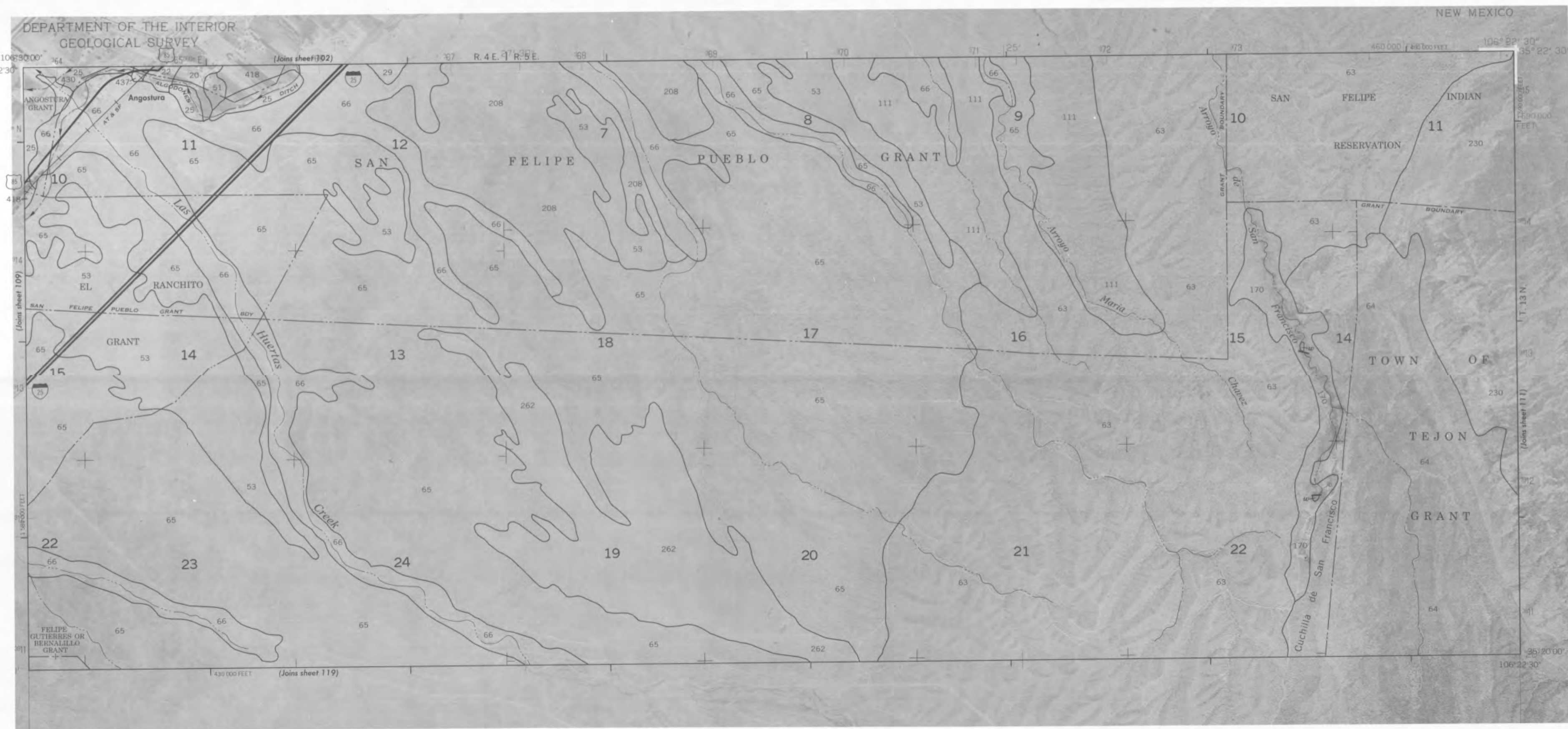
AS108



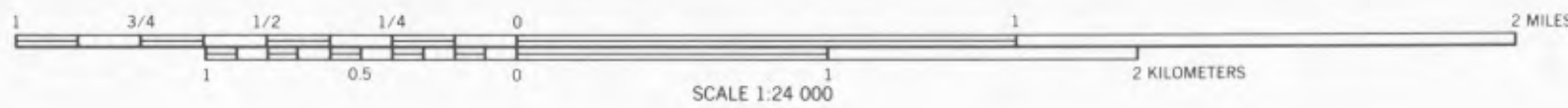
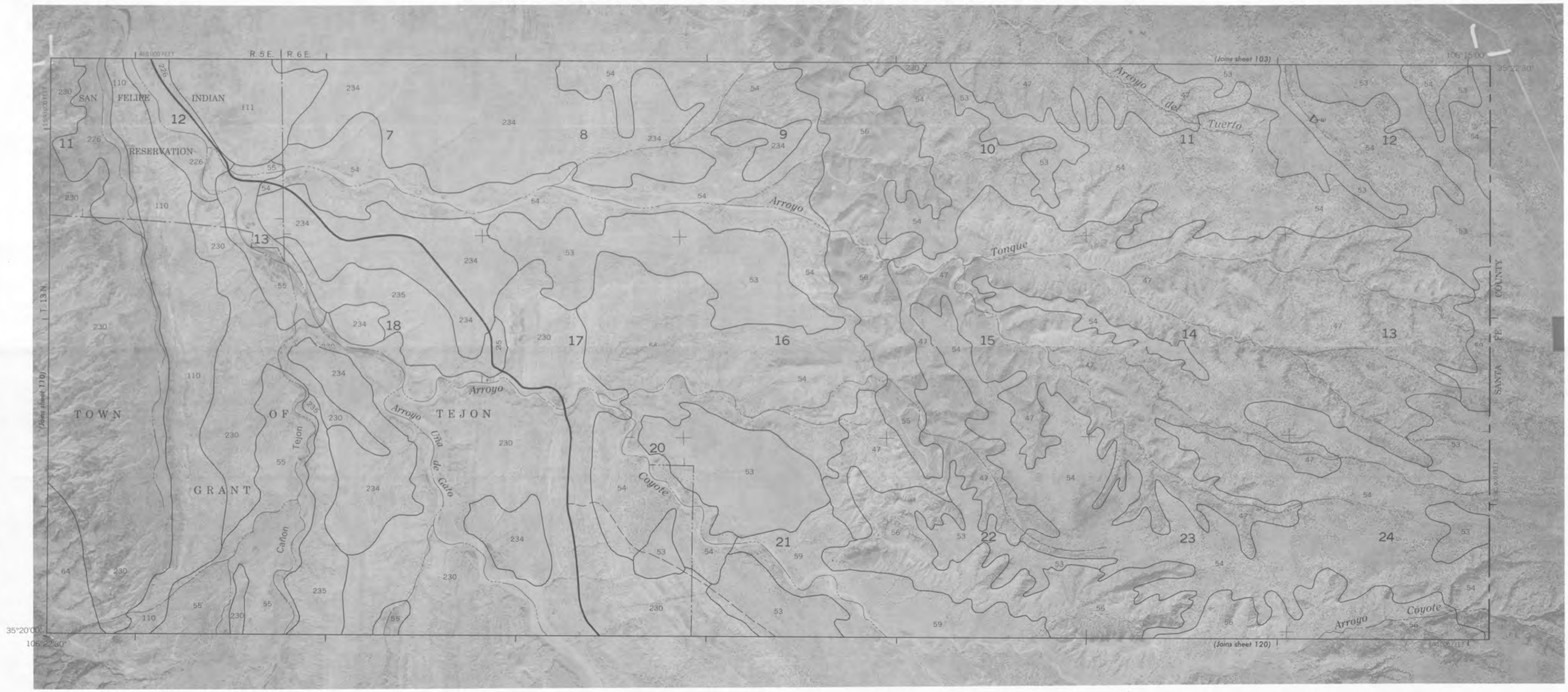
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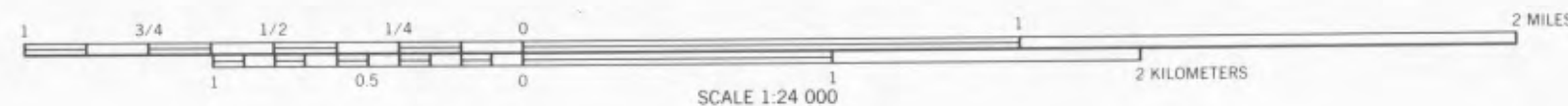
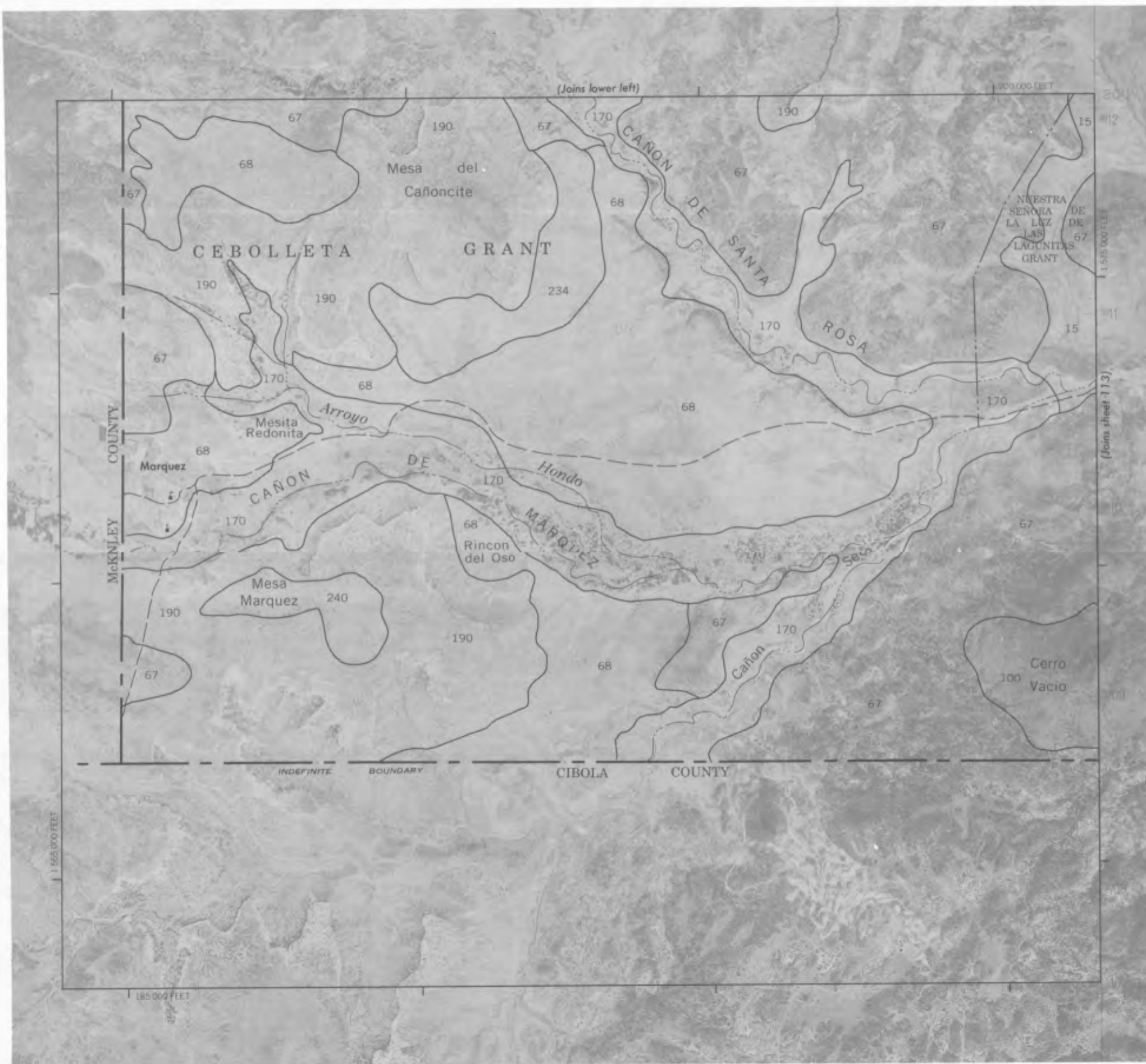
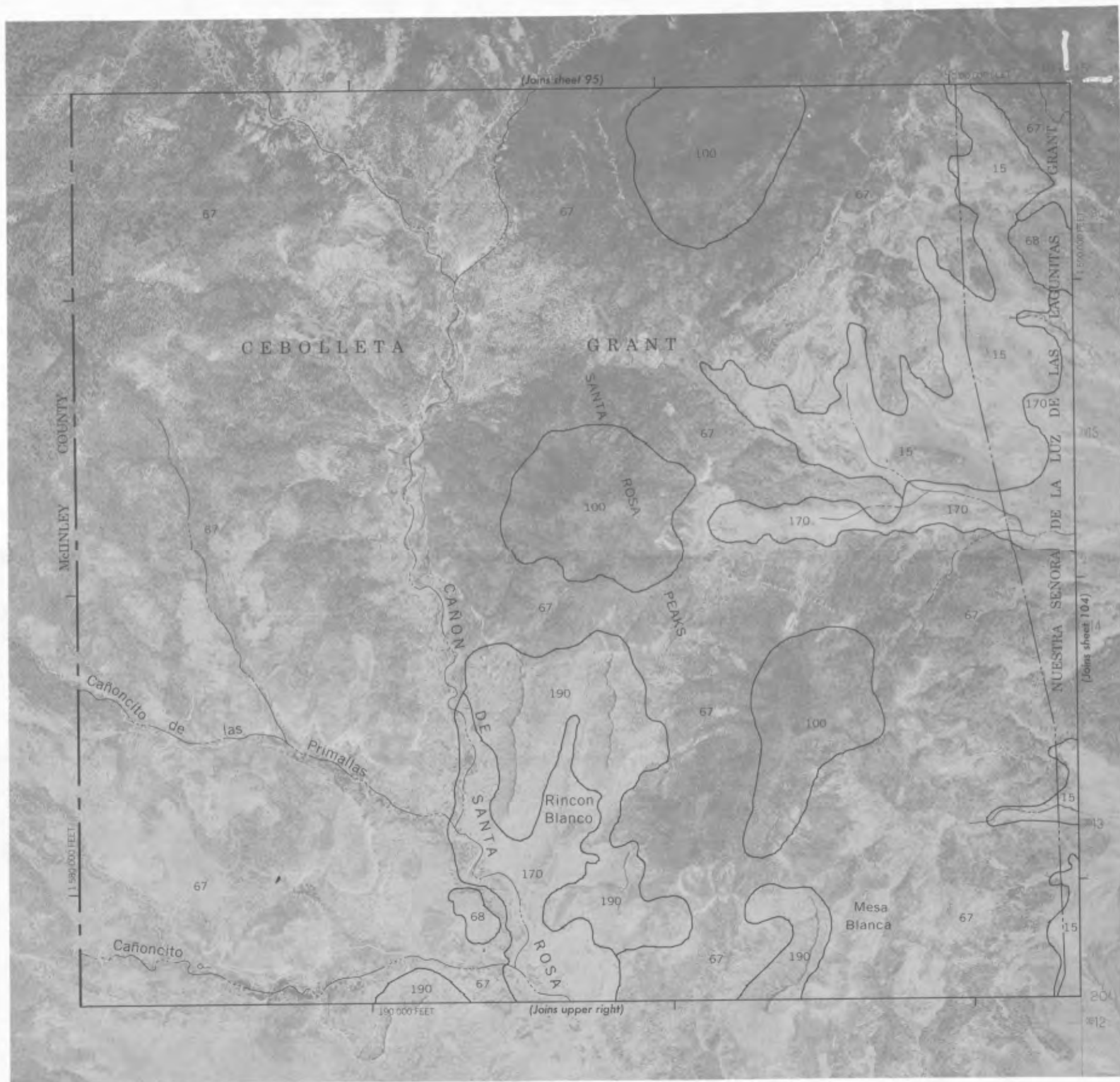


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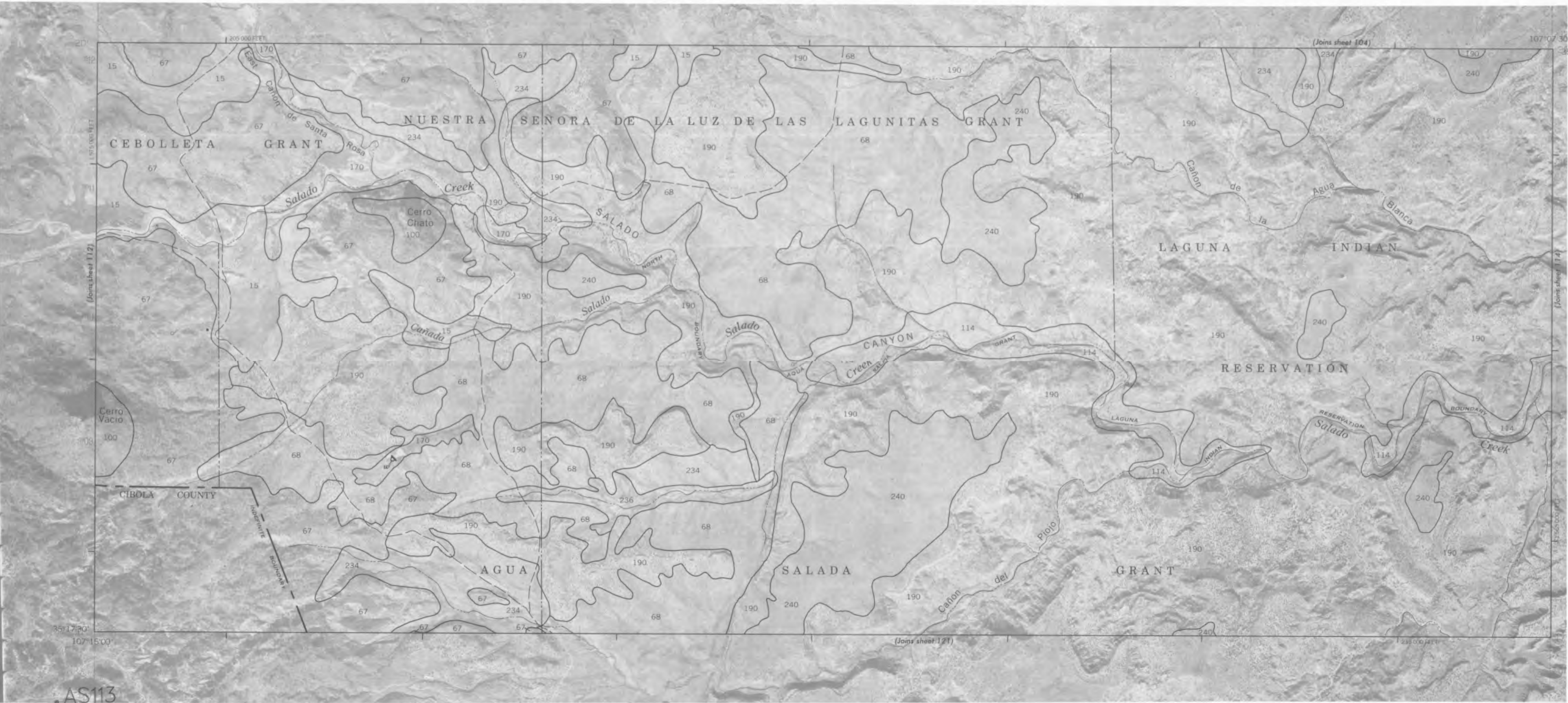


This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

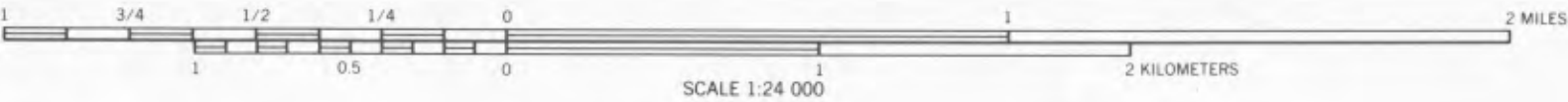


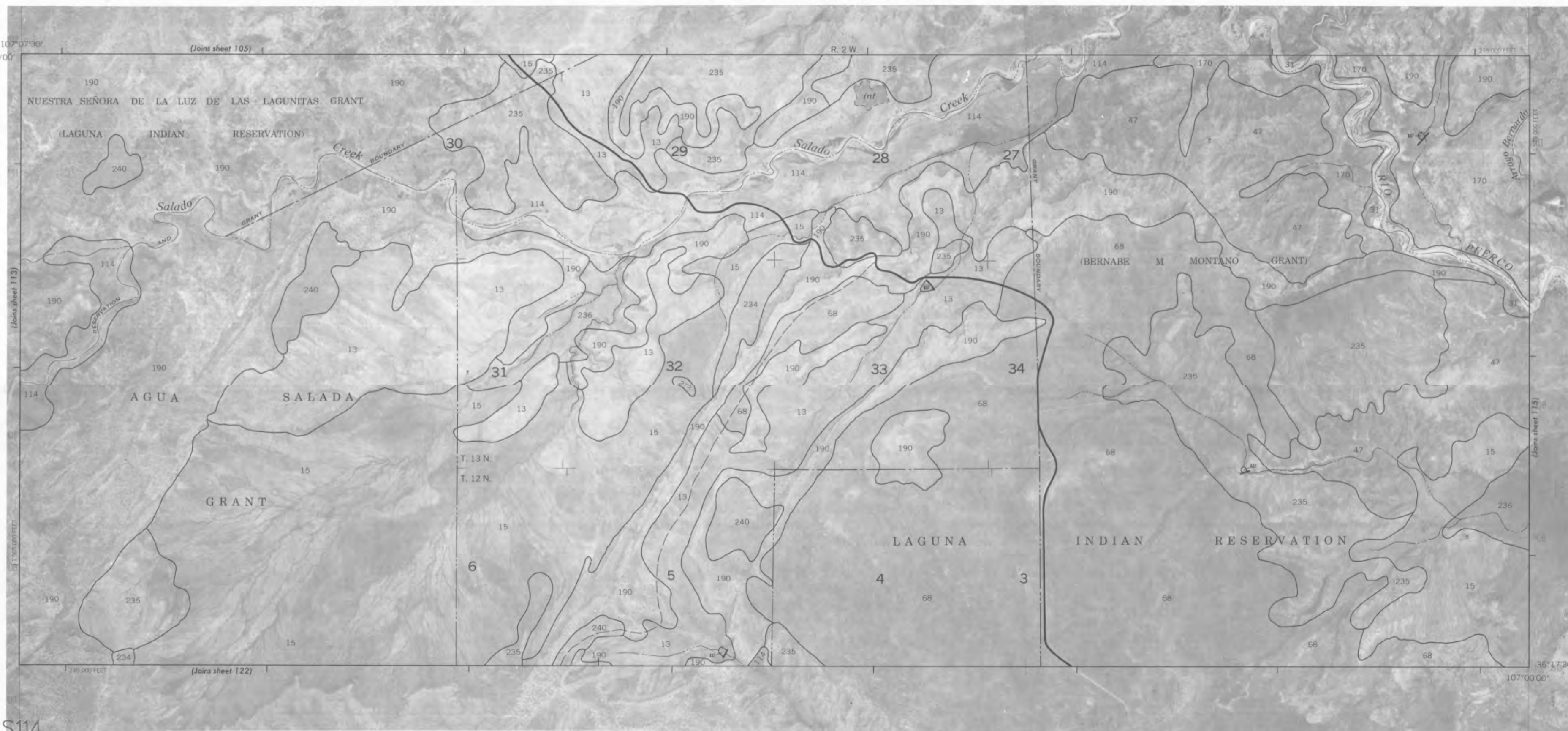


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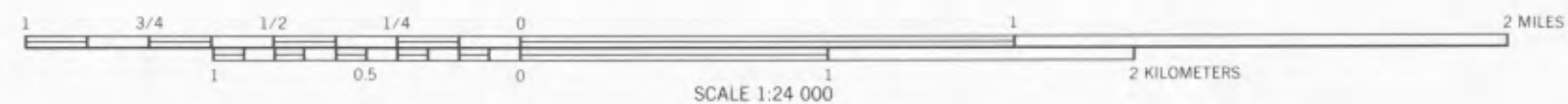
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.





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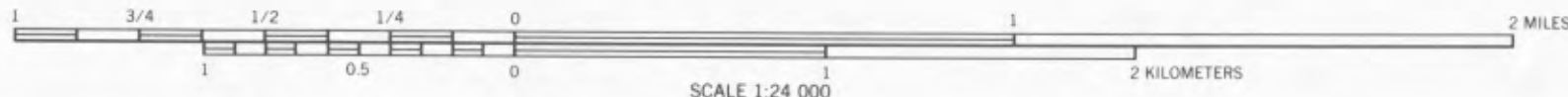
AS114



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974 - 1977 aerial photography. Coordinate grid ticks and land division corners if shown, are approximately positioned.

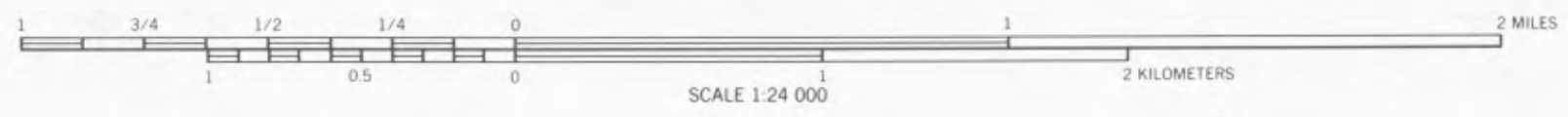


AS115

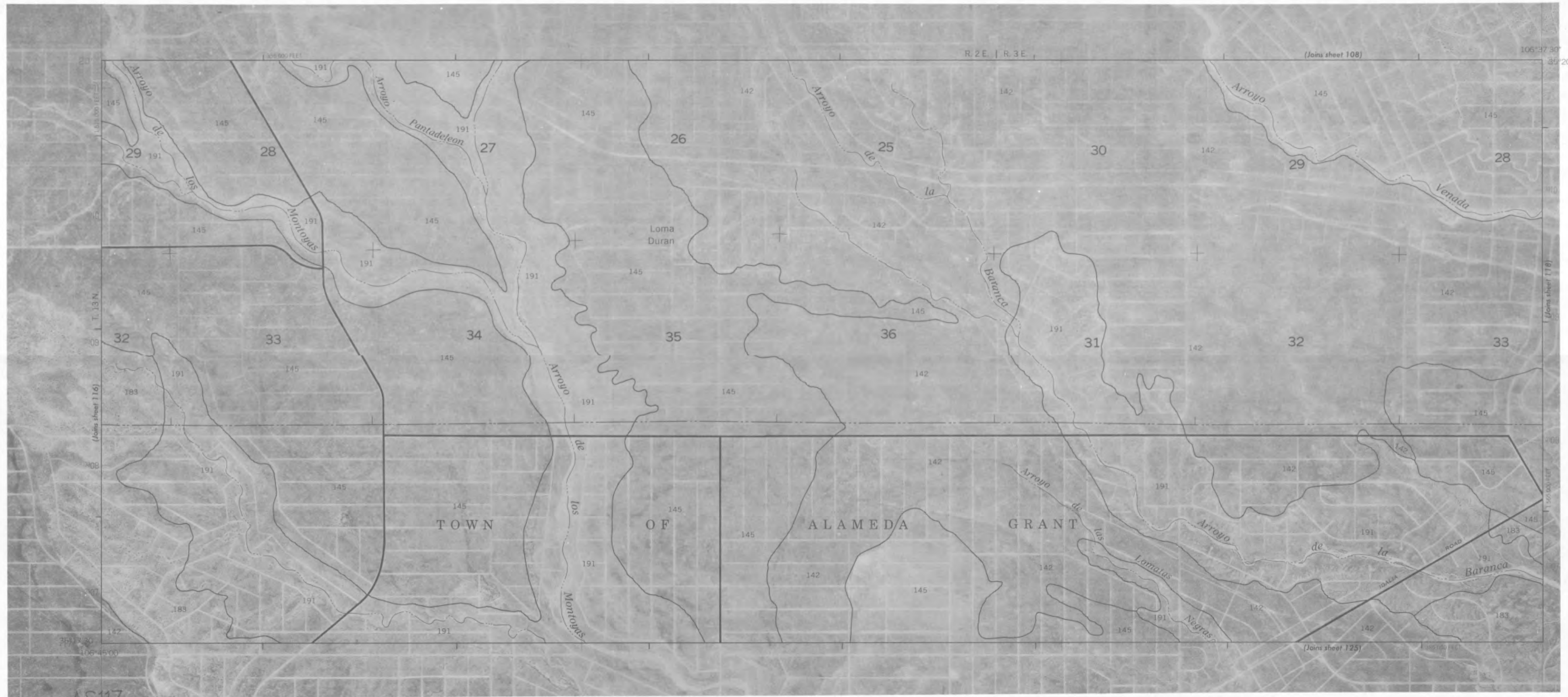




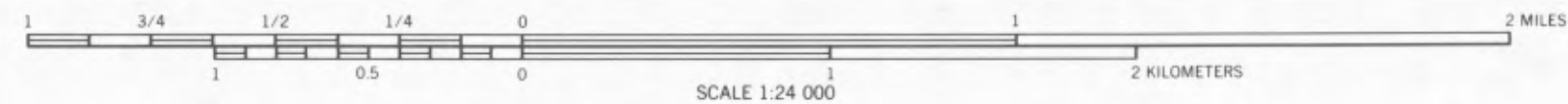
AS116



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners if shown, are approximately positioned.



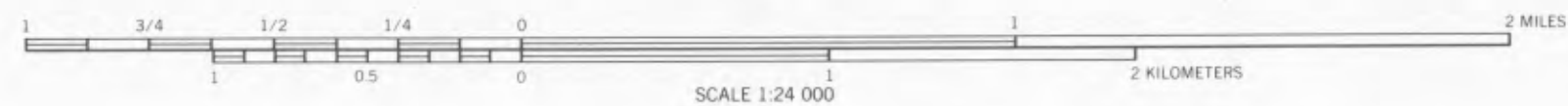
AS117

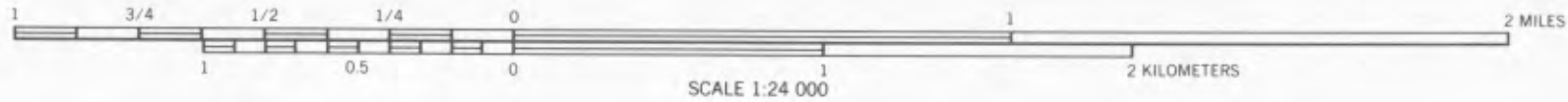
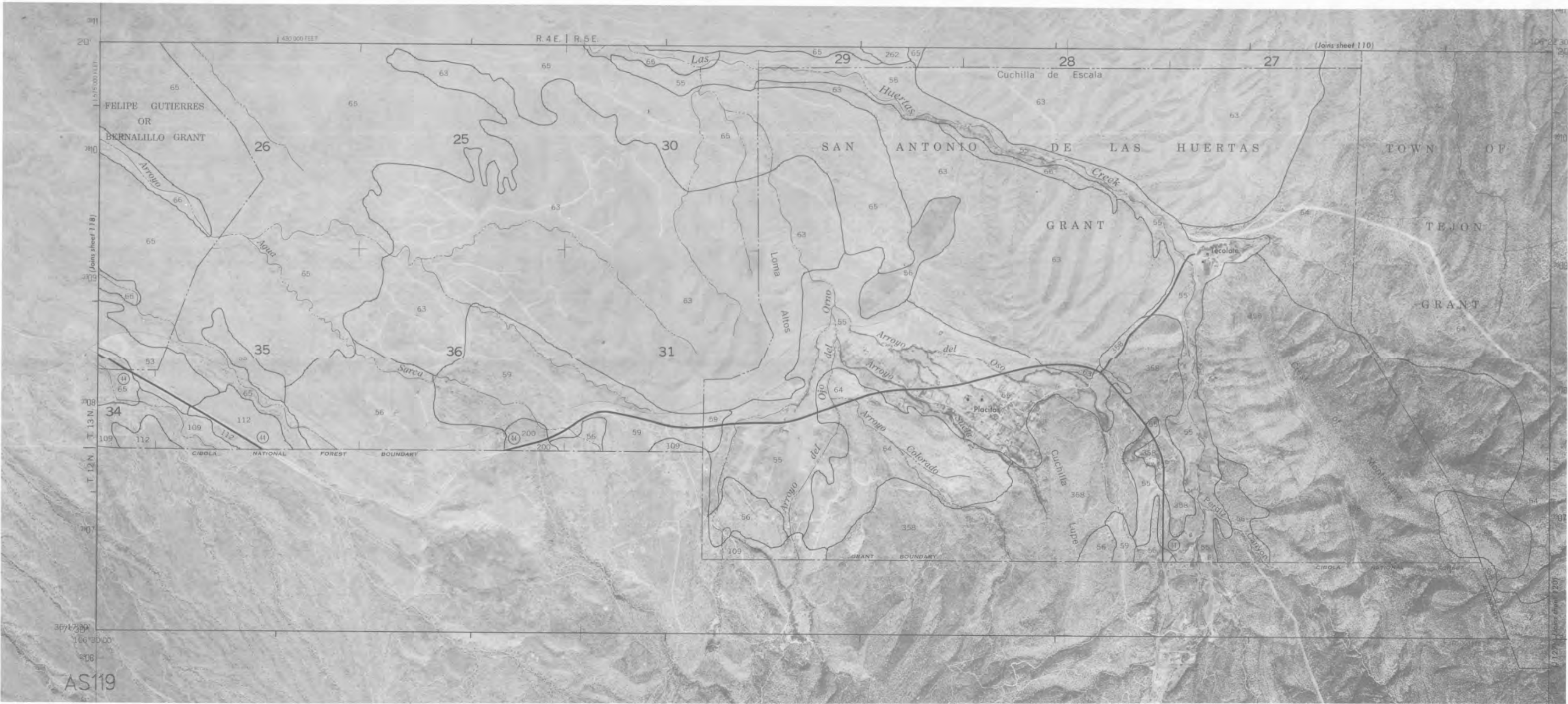




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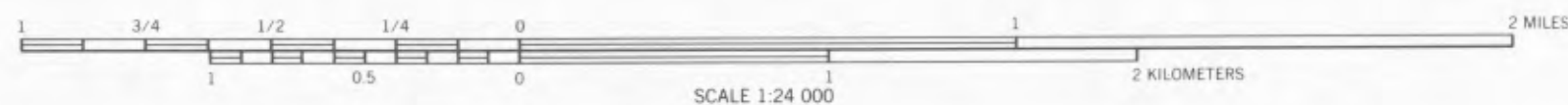
AS118





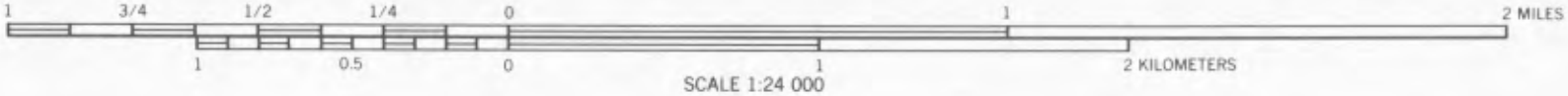


This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.





AS121



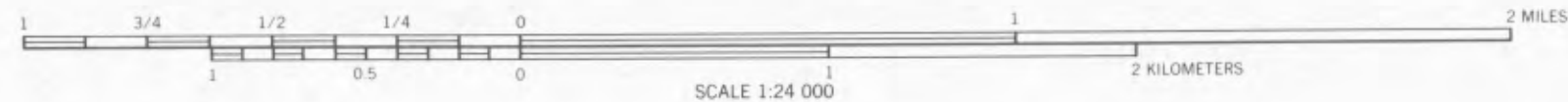


107°17'30"
35°17'30"



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corner, if shown, are approximately positioned.

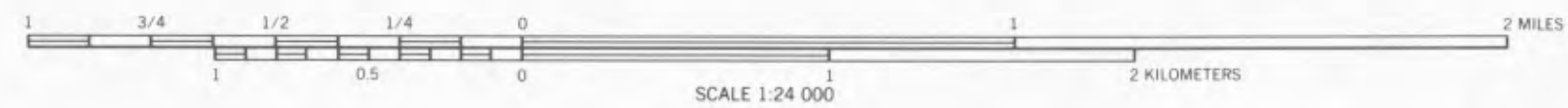
AS122



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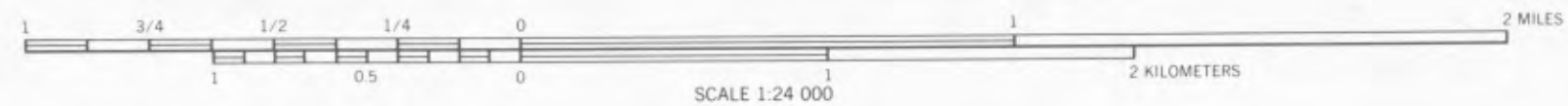


AS123





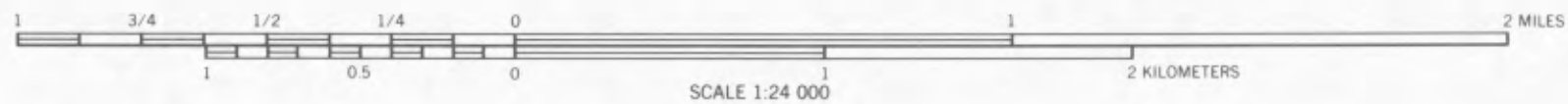
AS124



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners if shown, are approximately positioned.



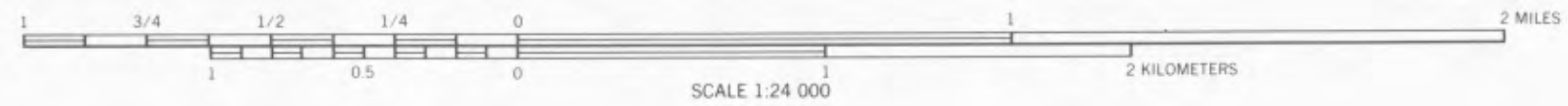
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



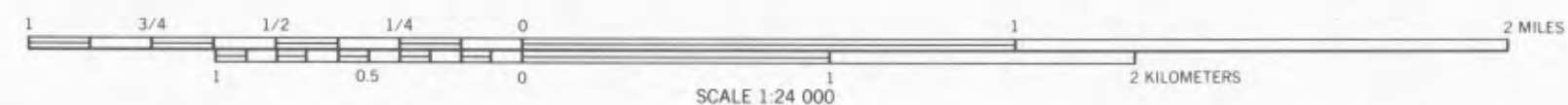
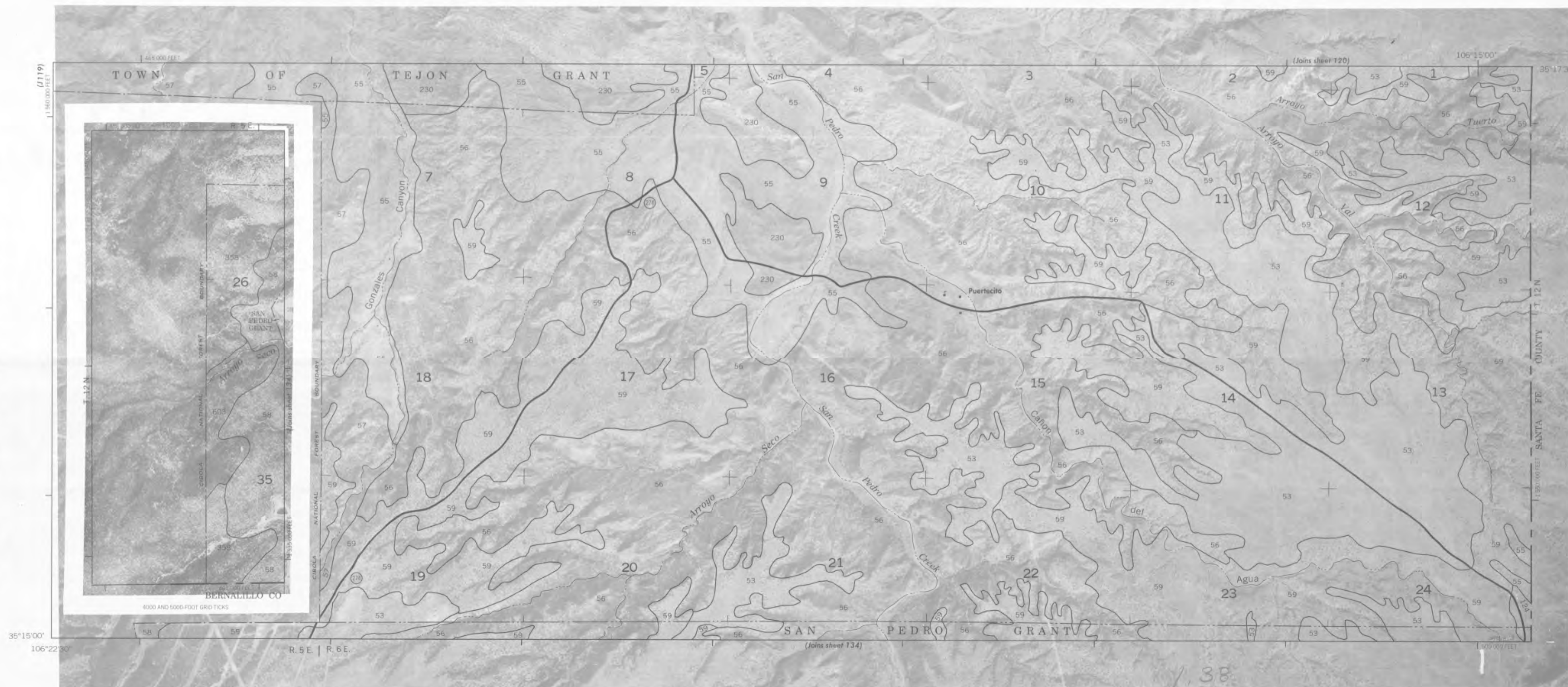


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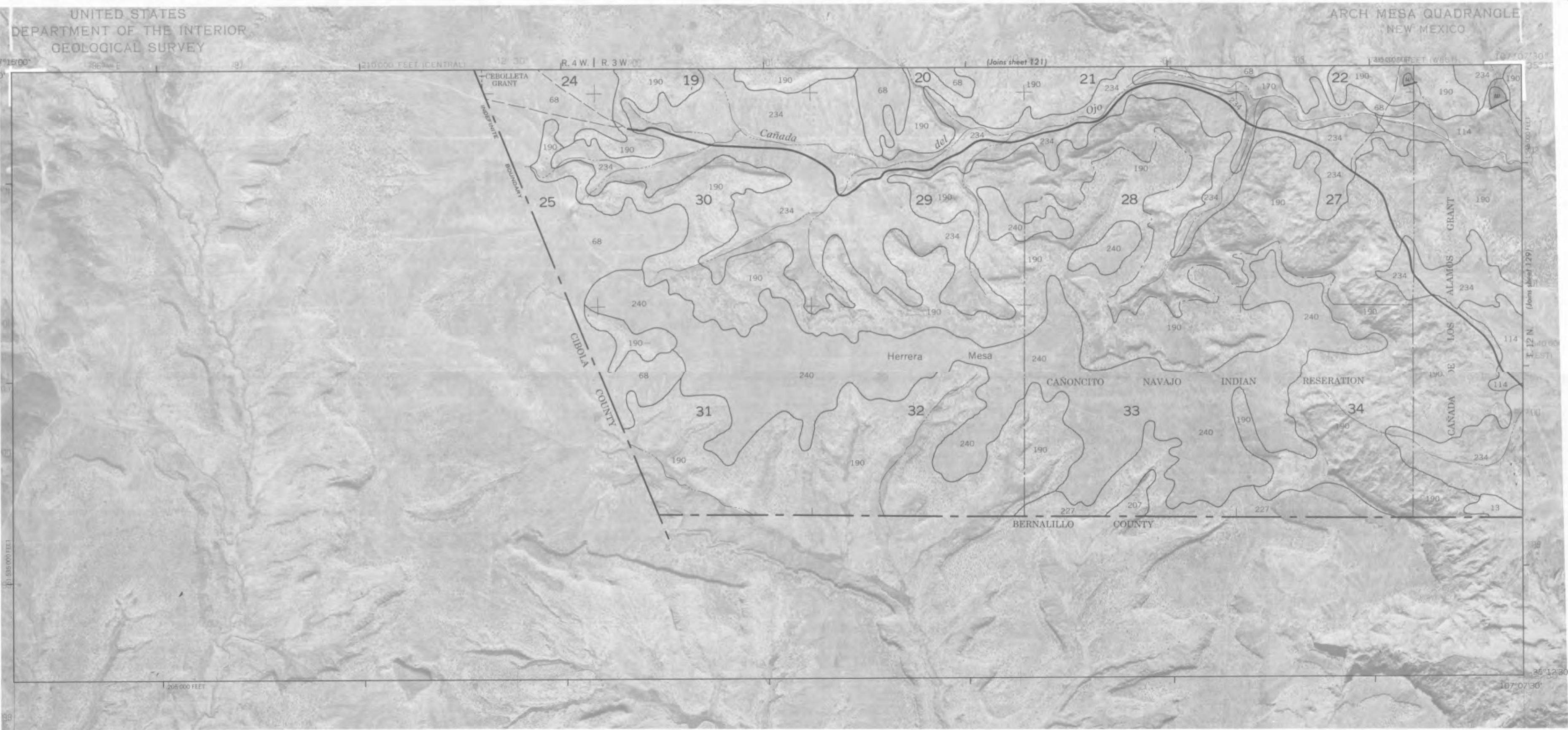
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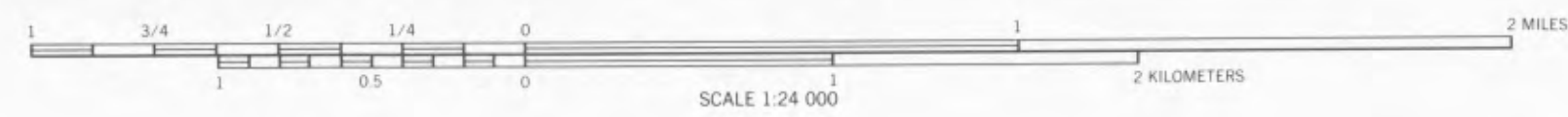
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



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AS128



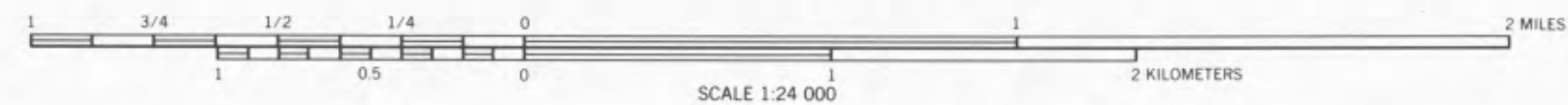
This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.



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AS129



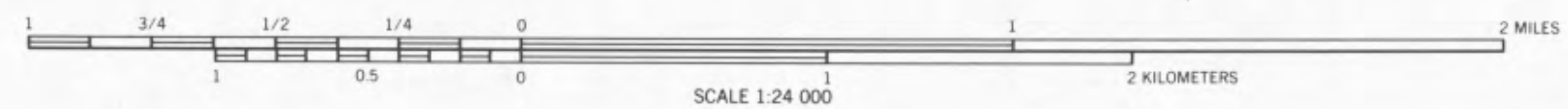


107°00'00"

35°15'00"



This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1974-1977 aerial photography. Coordinate grid ticks and land division corners if shown, are approximately positioned.

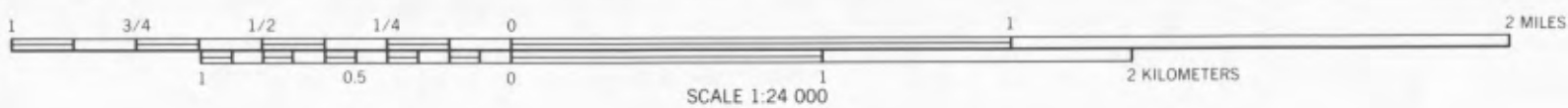


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AS131



AS132

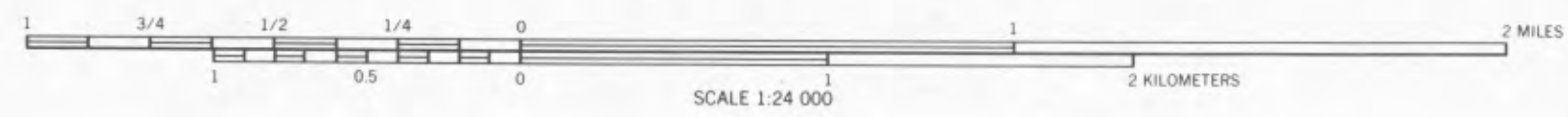


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AS133



N

106°22'30"
35°15'00"



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